



Manual

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NOMADA 12V105Ah



User Manual Nomada 12V105Ah

Dear customer,

This manual contains all the necessary information to install, use and maintain the Nomada 12V105Ah Li-ion battery. We kindly ask you to read this manual carefully before using the product. In this manual, the Nomada 12V105Ah Li-ion battery will be referred to as: the Li-ion battery. This manual is meant for the installer and the user of the Li-ion battery. Only qualified, certified personnel may install and perform maintenance on the Li-ion battery. Please consult the index at the start of this manual to locate information relevant to you.

During the use of the product, user safety should always be ensured, so installers, users, service personnel and third parties can safely use the Li-ion battery.

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1. Safety guidelines and measures

1.1. General

- Do not short-circuit the Li-ion battery.
- Treat the Li-ion battery as described in this manual.
- Do not dismantle, crush, puncture, open or shred the Li-ion battery.
- Do not expose Li-ion battery to heat or fire. Avoid exposure to direct sunlight.
- Do not remove the Li-ion battery from its original packaging until required for use.
- In the event of electrolyte leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with water and seek medical advice.
- Always use a class 2 charger which is specifically provided for use with a Lithium Iron Phosphate battery (LiFePO4)
- Observe the plus (+) and minus (–) marks on the Li-ion battery and equipment and ensure correct use.
- Do not mix batteries of different manufacture, capacity, size or type.
- Keep the Li-ion battery clean.
- Secondary batteries need to be charged before use. Always use the correct charger and refer this manual for proper charging instructions.
- Do not leave the Li-ion battery on prolonged charge when not in use.
- After extended periods of storage, it may be necessary to charge and discharge the Li-ion battery several times to obtain maximum performance.
- Retain the original product documentation for future reference.
- Disconnect the Li-ion battery from the equipment when not in use.
- Do not charge the Li-ion battery below 0°C.

⚠ Warning! Keep the Li-ion battery away from dust and contamination. Place the Li-ion battery in well ventilated areas.

1.2. Disposal



Dispose the Li-ion battery in accordance with local, state and federal laws and regulations.

Batteries may be returned to the manufacturer.

Do not mix with other (industrial) waste.

2. Introduction

2.1. Product description

The Nomada 12V105Ah is a modular Lithium Iron Phosphate rechargeable battery. The Li-ion battery has a compact and lightweight modular design which means you can easily scale up your energy system. The unique combination of state-of-the-art technology and smart software makes this Li-ion battery a robust, safe and easy to use energy storage solution.

The Li-ion battery uses safe Lithium Iron phosphate (LiFePO₄) technology. With its integrated battery management system the Li-ion battery is protected from deep discharging, overcharging and overheating.

⚠ Warning! It is required to use a Super B Battery Communication Interface (BCI) in combination with an external disconnect device or a Super B Battery Interface Box (BIB), for safe operation of the Nomada 12V105Ah Li-ion battery

2.2. Intended use

The Nomada 12V105Ah Li-ion battery serves as an energy source of 12V in power systems for recreational vehicles, commercial vehicles, leisure boats, commercial vessels and stationary applications. Potential applications for this Li-ion battery include: off grid power supply, marine power supply, medium for (renewable) energy storage and (traction) battery for vehicles. Using it as a starter battery is not possible. Up to 4 batteries can be connected in series or in parallel to increase the total capacity up to 420Ah. When using more than 4 batteries in series or parallel always consult Super B.



2.3. Glossary of Terminology

BMS	Battery Management System
Charge cycle	A period of use from fully charged, to fully discharged, and fully recharged again.
Endurance Life-cycle	The products maximum lifespan, achieved by following the guidelines presented in this manual.
BCI	Battery Communication Interface
BIB	Battery Interface Box
LiFePO ₄	Lithium Iron Phosphate
SoC	State of charge
CCCV	Constant Current - Constant Voltage
DoD	Depth of Discharge

Table 1. Glossary of Terminology

2.4. Used symbols

The following icons will be used throughout the manual:

-  **Warning!** A warning sign indicates severe damage to the user and/or product may occur when a procedure is not carried out as described.
-  **Caution!** A caution sign indicates that problems may occur if a procedure is not carried out as described. It may also serve as a reminder to the user.

3. Product specifications

3.1. Product features

- Modular traction battery
- Lithium Iron Phosphate (LiFePO4): Safe Li-ion technology
- Integrated BMS (Battery Management System),
- BIB or BCI with disconnect device (relay) is required
- PC+ABS (UL94 V-0) flame-retardant battery casing
- Terminals for 2 x M8 bolts
- Maximum continuous discharge current: 315A
- External fuse needed
- Wired communication interface: CANopen
- Easy CAN bus interconnection
- Battery monitoring and history storage
- Adaptive cell balancing
- Configurable in serial or parallel connection

3.2. Technical specifications

3.2.1. Electrical specifications

Nominal capacity	105Ah
Energy	1344Wh
Nominal voltage	12.8V
Open circuit voltage	13.2V
Self discharge	<3% per month

Table 2. Electrical specifications

3.2.2. Mechanical specifications

Dimensions (LxWxH)	437 x 90 x 175 mm / 17.2" x 3.5" x 6.9"
Weight	10 kg / 22 lbs
Case material	PC+ABS (UL94 V-0) flame-retardant battery casing
Ingress protection	IP66
Cell type / chemistry	Prismatic - LiFePO4

Table 3. Mechanical specifications

3.2.3. Charge & discharge specifications

Charge method	CCCV
Charge voltage	14.3V - 14.6V
Max charge current	105A
End of discharge voltage	10V
Max discharge current continuous	315A
Max discharge pulse current (10 sec, SoC >60%)	525A

Table 4. Charge and discharge specifications

3.2.4. Temperature specifications

Charge temperature	0°C to 55°C / 32°F to 131°F ¹
Discharge temperature	-20°C to 55°C / -4°F to 131°F
Storage temperature short term (<1 month)	-20°C to 45°C / -4°F to 113°F
Storage temperature long term (>1 month)	0°C to 35°C / 32°F to 95°F
Relative humidity	10-90%

Table 5. Temperature specifications

¹Do not charge the Li-ion battery below 0°C / 32°F

3.2.5. Compliance specifications

Certifications	CE, FCC, UN 38.3, DNV, UL 1642 (Cells), UN ECE R10.06, ES-TRIN
Shipping classification	UN 3480

Table 6. Compliance specifications

3.2.6. General product specifications

Battery designation	IFpP/36/130/195/[4S]M/-20+50/90
Cycle life	>3500 (1C charge/discharge, DoD 100%) ²

Table 7. General product specifications

²The cycle life value given above is an indication at 23°C. The Li-ion battery cycle life depends strongly on temperature and the applied charging and discharging loads.

3.3. Environmental conditions

⚠ Warning! The Li-ion battery may only be used in conditions specified in this manual. Exposing the Li-ion battery to conditions outside the specified boundaries may lead to serious damage to the product and/or the user.

Use the Li-ion battery in a dry, clean, dust free, well ventilated area. Do not expose the Li-ion battery to fire, solvents or excessive heat.

3.4. Scope of delivery

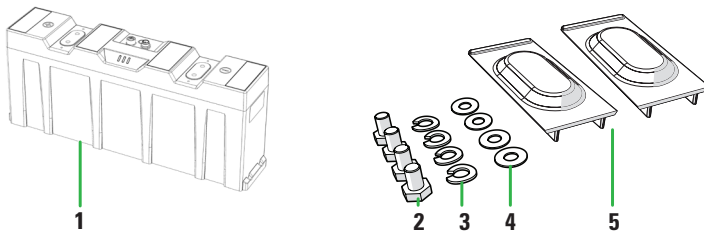


Figure 1. Scope of delivery.

1. (1x) Nomada 12V105Ah lithium battery
2. (4x) M8 Bolt
3. (4x) M8 Spring washer
4. (4x) M8 Plain washer
5. (2x) Terminal protection cap

3.5. Connections

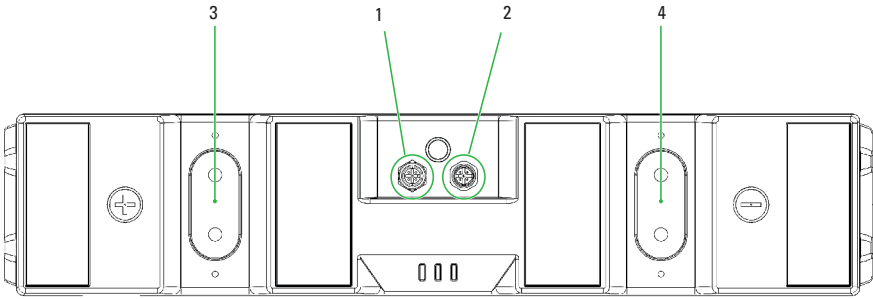


Figure 2. Connections

1. Con 1 (CANopen; 5-pin “micro” style connector female)
2. Con 2 (CANopen; 5-pin “micro” style connector male)
3. Terminal + (2x M8)
4. Terminal - (2x M8)

3.5.1. Con 1 & 2 (CANopen; 5-pin “micro” style connector)

PIN #	Signal	Description
1	CAN_SHLD	Optional CAN Shield
2	CAN_V+	Optional CAN external positive supply (dedicated for supply of transceiver and optocouplers. if galvanic isolation of the bus node applies)
3	CAN_GND	Ground / 0V
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_L	CAN_L bus line (dominant low)

Table 8. Con 1 & 2 (CANopen; 5-pin “micro” style connector)

3.5.2. LED Indicators

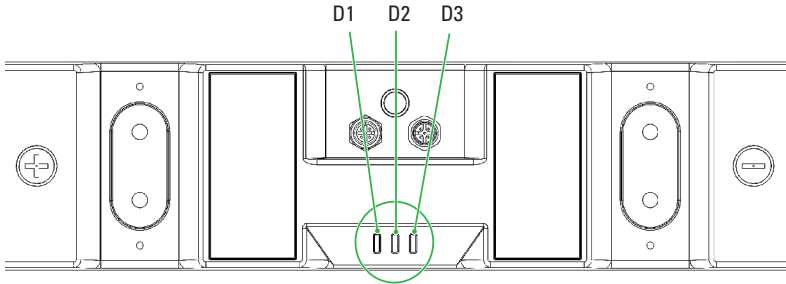


Figure 3. LED Indicators

	D1 (Green)	D2 (Yellow)	D3 (Red)	Mode
1	Off	Off	Off	Empty / Deep discharge
2	Off	Off	On	Alarm mode
3	On	Off	Off	Operational mode
4	Flashing	Off	Off	Operational mode (Idle) ¹
5	Off	On	Off	Warning mode

Table 9. LED Mode

¹When the Li-ion battery is in operational mode and the battery is not being charged or discharged, the Green LED indicator flashes every 3 seconds.

3.6. Peripheral equipment

3.6.1. Obligatory

In order for the Li-ion battery to be used safely, a BIB or BCI in combination with an external disconnect device must be installed. Not installing a BIB or BCI with an external disconnect device will lead to serious damage to the Li-ion battery and can pose high safety risks for users and the environment. When a BIB or BCI with an external disconnect device is not installed the warranty of the Li-ion battery will be void.

3.6.2. Optional Components

The Li-ion battery can be used in combination with a number of (Super B) products:

Description	Article name	EAN code
CAN Male-female Cable 0.6m	SB CAN Male-female Cable 0.6m	8718531360716
CAN Male-female Cable 1m	SB CAN Male-female Cable 1m	8718531360723
CAN Male-female Cable 2m	SB CAN Male-female Cable 2m	8718531360730
CAN Male-female Cable 5m	SB CAN Male-female Cable 5m	8718531360747
CAN Male-female Cable 10m	SB CAN Male-female Cable 10m	8718531360754
Battery Interface Box	SB BIB LV12V350A V2	8718531361843
Battery Interface Box	SB BIB LV24V350A V2	8718531361850
Battery Interface Box	SB BIB LV48V350A V2	8718531361867
Battery Interface Box	SB BIB LV12V600A V2	8718531361874
Battery Interface Box	SB BIB LV24V600A V2	8718531361881
Battery Interface Box	SB BIB LV48V600A V2	8718531361898
Battery monitor	SB Monitor Software	8718531362086
Battery Communication Interface	SB BCI-C1	8718531360884
Touch Display	Touch Display	8718531361447
Touch Display + Cable	Touch Display + Cable	8718531361447
CAN Terminator Male Low Profile	CAN Terminator Male Low Profile	8718531361997
CAN Terminator Female Low Profile	CAN Terminator Female Low Profile	8718531362000
CAN Cable 0.25m angled male to angled female	SB CAN Cable 0.25m angled male to angled female	8718531362147
CAN Cable 1.0m angled male to angled female	SB CAN Cable 1.0m angled male to angled female	8718531362154
CAN Cable 2.5m angled male to angled female	SB CAN Cable 2.5m angled male to angled female	8718531362161
Y-split Cable 0.2m Angled male to straight male-female	SB Y-split Cable 0.2m Angled male to straight male-female	8718531361942
Battery Fixation Bracket Single	SB Battery Fixation Bracket Single	8718531362123
Battery Fixation Bracket Quadruple	SB Battery Fixation Bracket Quadruple	8718531362130

Battery connection strip Series	SB Battery connection strip Series	8718531361959
Battery connection strip Parallel	SB Battery connection strip Parallel	8718531361966

Table 10. Optional components that can be used with the Li-ion battery

4. Installation

4.1. General information

- ⚠ **Warning!** Never install or use a damaged Li-ion battery.
- ⚠ **Warning!** Always use a proper fuse which fits the system needs.
- ⚠ **Warning!** Do not reverse connect the Li-ion battery (polarity).

When connecting several batteries in series or parallel, always use batteries of the same brand, type, age, capacity and state of charge.

4.2. Unpacking

Check the Li-ion battery for damage after unpacking. If the Li-ion battery is damaged, contact your reseller or Super B. Do not install or use the Li-ion battery if it is damaged!

4.3. Preparing the battery for use

- ⚠ **Caution!** Do not operate the Li-ion battery beyond published maximum specifications.
- ⚠ **Caution!** Charging at deep discharge conditions can lead to venting, excessive heat or thermal runaway of the cells.
- ⚠ **Caution!** This Li-ion battery stores fault conditions internally, like excessive charge current or deep discharge situations. Super B uses this information in the warranty process.
- ⚠ **Warning!** Do not overcharge the Li-ion battery.

4.3.1. Placement of the battery

Before it is used, the Li-ion battery must be positioned in such a way that it will not move around in its compartment during use. The Li-ion battery may be placed on its long side, but not upside down or on its short side. If necessary, the Li-ion battery may be fixed in place by means of Super B mounting brackets. The brackets can be screwed in place by means of bolts or screws.

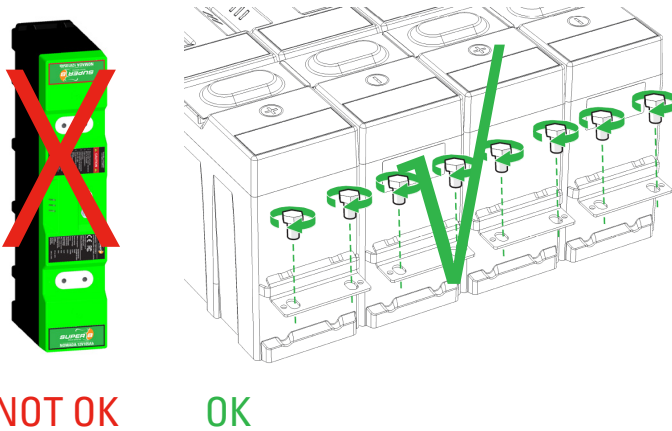


Figure 4. Placement of the battery

4.4. Connection wires

Use appropriate wire for the connection wires to prevent overheating and unnecessary losses. Use appropriate fuses matching the wires and load. Super B suggests to use 95mm² connection wires. Connection wires with smaller diameters can cause overheating or unnecessary losses.

4.4.1. Using the SB BIB (Battery Interface Box)

⚠ Warning! Do not connect a load or charger directly on the Li-ion battery, always connect these devices at the load side of the BIB.

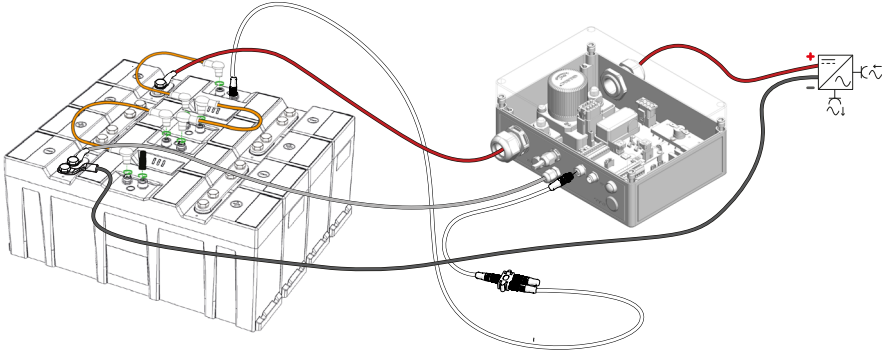


Figure 5. Connecting a Li-ion battery to the SB BIB
Consult with Super B for the SB BIB installation instructions.

4.4.2. Using the SB BCI-C1 (Battery Communication Interface) with a normal relay

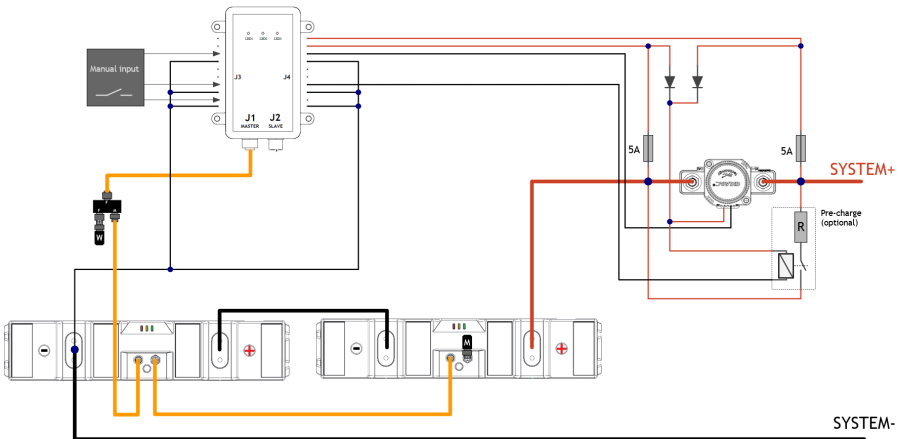


Figure 6. Connecting a Li-ion battery to the SB BCI-C1

Consult with Super B for the SB BCI-C1 installation instructions.

4.5. Disconnecting the Li-ion battery

1. Turn off any device or charger the Li-ion battery is connected to.
2. Disconnect the negative wire from the - terminal of the Li-ion battery.
3. Disconnect the positive wire from the + terminal of the Li-ion battery.

5. Connecting Li-ion batteries in series and parallel

5.1. Connecting Li-ion batteries in series.

⚠ **Caution!** When connecting multiple batteries in series or parallel make sure that the SoC of all batteries is 100% to avoid unbalance in the battery bank.

⚠ **Caution!** Before connecting 4 or more batteries in series, always consult Super B

⚠ **Caution!** Depending on the installation a precharge circuit might be needed. For further information consult Super B or your dealer.

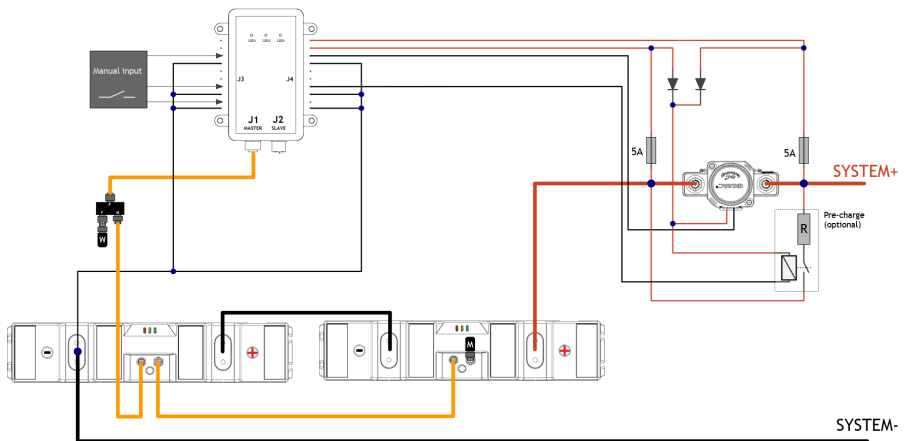


Figure 7. Batteries connected in series with external disconnect device and BCI.

5.2. Connecting Li-ion batteries in parallel

⚠ **Caution!** Before connecting 2 or more Li-ion batteries in parallel, the Li-ion batteries must be charged to 100% SoC.

⚠ **Caution!** For more than 4 Li-ion batteries in parallel connection consult Super B or your dealer.

⚠ **Caution!** Depending on the installation a precharge circuit might be needed. For further information consult Super B or your dealer.

⚠ **Caution!** Make sure that the disconnect device (relay) used, is suitable for the maximum continuous (dis)charge current of the system.

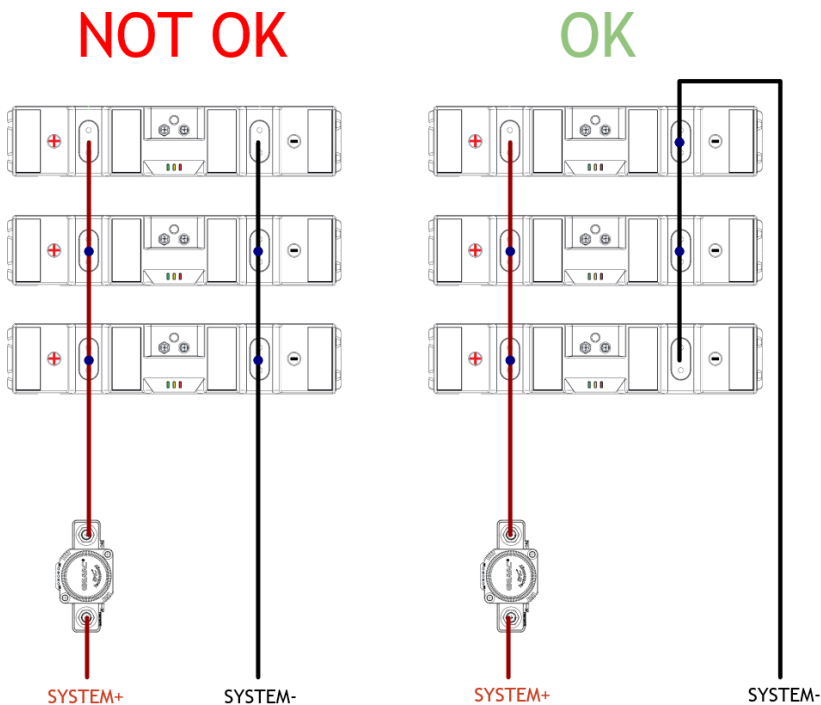


Figure 8. Three Li-ion batteries in parallel with external disconnect device

OK: Equally divided battery current.
All batteries contribute equally to the current into the load.

NOT OK: Current not equally divided.
Batteries closest to load will have the highest contribution to the current into the load, whereas batteries further away from load will have lesser current contribution.
Wear and tear will be higher on the Li-ion battery close to the load.

5.3. Connecting Li-ion batteries in series and parallel

⚠ Caution! Before connecting 4 or more Li-ion batteries in series and parallel, the Li-ion batteries must be charged to 100% SoC.

⚠ Caution! For more than 4 Li-ion batteries in series and parallel connection consult Super B or your dealer.

⚠ Caution! Depending on the installation a precharge circuit might be needed. For further information consult Super B or your dealer.

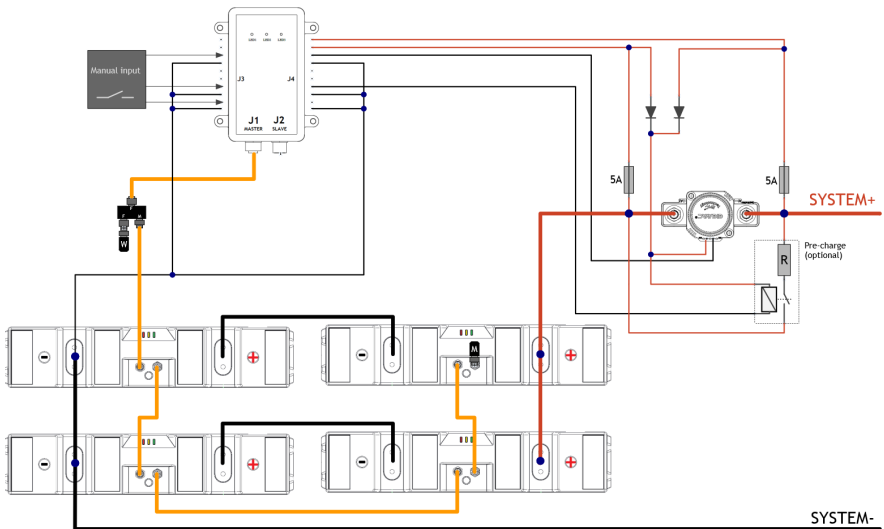


Figure 9. Four Li-ion batteries in a series - parallel connection with a BCI and external disconnect device.

5.4. CANopen interface

The CANopen interface of the Li-ion battery must be used for communication with the BCI/ BIB and can be used for monitoring purposes.

The Li-ion battery can be monitored using the Battery Monitor software and the touch screen display.

To use the Battery Monitoring Software, the CAN bus of the Li-ion battery needs to be connected by means of CAN-to-USB interface to the computer on which the monitoring software and the USB drivers are installed.

More information about the CANopen bus can be found at the CiA website: www.can-cia.org.

5.4.1. CAN Bus network topology

The CAN Bus must be used in a bus network topology. Do not use a ring- or a star topology. The maximum CAN bus length is limited. The Li-ion battery has a fixed bitrate of 250kbps.

In table 11 is an overview of these restrictions.

Bit rate	Bus length (L)	Max. stub length (S)	Accumulated stub length
250 kbps	250 m	11 m	55 m

Table 11. CAN bus restrictions

5.4.2. Termination Resistors

The CAN bus requires termination at the two ends of the bus. The USB-to-CAN interface may be connected anywhere to the CAN bus.

Use these resistors at the end nodes to prevent reflections on the line. The value of this resistor should be ± 120 ohms.

Please note that the terminator can be connected directly to the second connector on the Li-ion battery by using the available Super B terminators.

5.4.3. CAN bus power

Due to the galvanic isolation between the BMS and the Li-ion battery's CAN interface an external power supply is needed on the CAN bus.

The CAN bus can be powered through the CAN power cable (see figure 9).

This situation may occur when a USB-to CAN interface is directly connected to the Li-ion battery. When using the SB BCI with one Li-ion battery, the CAN power cable is required.

When using the SB BCI with 2 to 16 Li-ion batteries, the CAN power cable isn't required. The power is provided by the BCI.

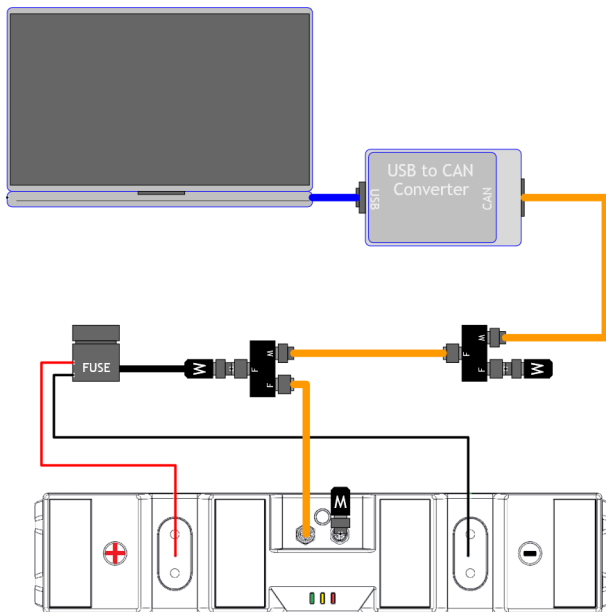


Figure 10. CAN bus power

6. Battery use

6.1. General information

- ⚠ **Warning!** It is required to use a Super B Battery Communication Interface (BCI) in combination with an external disconnect device or a Super B Battery Interface Box (BIB), for safe operation of the Li-ion battery.
- ⚠ **Warning!** In case of an undervoltage shutdown the charging current must be very low until a safe voltage is achieved.
- ⚠ **Warning!** Follow the safety guidelines and measures of chapter 1.
- ⚠ **Caution!** Charge the Li-ion battery before use.
- ⚠ **Caution!** Do not cover the + and - sign as they contain a integrated pressure relief mechanism.

6.2. Charging

- ⚠ **Warning!** Never charge the Li-ion battery with a charging current larger than the maximum charge current specified in chapter 3.2.3

⚠ Warning! Stop charging when the Li-ion battery switches to alarm mode (the external disconnect device will switch off).

⚠ Caution! To charge the Li-ion battery, use a class 2 charger which is suitable for charging Lithium Iron Phosphate batteries.

1. Connect the charger to the Li-ion battery as described in paragraph 4.
2. Charge the Li-ion battery in case of an under-voltage shutdown or if the state of charge drops below 20% to preserve the lifespan of the Li-ion battery.

6.2.1. Battery balancing

During the battery lifespan, the cells within the Li-ion battery may be unbalanced due to high discharge currents and short float charge periods. This may result in a loss of capacity and unbalanced cells. The cells can be manually balanced by applying a constant voltage of 14.4 V and a current between 500mA and 800mA to the Li-ion battery

6.2.2. Reading the battery's State of Charge (SoC)

The Li-ion battery's State of Charge can only be read by CAN communication.

6.3. Battery Monitoring Software

Super B battery monitoring software offers the possibility to monitor the parameters of the Li-ion battery, such as cell voltage or temperature. It also enables one to download a complete recording of the Li-ion battery's properties over time.

The battery monitoring software and hardware are not included with the Li-ion battery. An overview of these products is given in paragraph 3.6.2.

6.3.1. Battery History Recording

The battery history can be downloaded with the battery monitor software. This recording can only be accessed by a reseller or Super B for evaluation.

7. Inspection and cleaning

7.1. General information

⚠ Warning! Never attempt to open or dismantle the Li-ion battery! The inside of the Li-ion battery does not contain serviceable parts.

1. Disconnect the Li-ion battery from all loads and charging devices before performing cleaning and maintenance activities (see paragraph 4.5).
2. Place the enclosed protective caps over the terminals before cleaning and maintenance activities to avoid making a short circuit.



7.2. Inspection

1. Inspect for loose and/or damaged wiring and contacts, cracks, deformations, leakage or damage of any other kind. If damage to the Li-ion battery is found, it must be replaced. Do not attempt to charge or use a damaged Li-ion battery. Do not touch the liquid from a ruptured Li-ion battery.
2. Observe and note the run time that a new and fully-charged Li-ion battery provides for powering your product. Use this new run time as a basis to compare run times for older batteries. The run time of the Li-ion battery will vary depending on the products' configuration and its application.
3. Routinely check the Li-ion battery's SOC. Lithium Iron Phosphate batteries have some level of self-discharge (<3% per month) when not in use or stored.
4. Consider replacing the Li-ion battery if you note either one of the following conditions:
 - The Li-ion battery run time drops below about 80% of the original run time.
 - The Li-ion battery charge time increases significantly.

7.3. Cleaning

If necessary, clean the Li-ion battery with a soft, dry cloth. Never use liquids, solvents, or abrasives to clean the Li-ion battery.

8. Storage

Follow the storage instructions below to optimize the lifespan of the Li-ion battery. If these instructions are not followed and the Li-ion battery has no charge remaining when it is checked, consider it to be damaged. Do not attempt to charge or use it. Replace it with a new Li-ion battery.

See paragraph 3.2.4 for storage temperature conditions.

1. Charge or discharge the Li-ion battery to 80% of its capacity before storage.
2. Disconnect the Li-ion battery from all loads and, if present, the charging device.
3. Place the terminal covers over the terminals during storage.
4. Charge the Li-ion battery to 80% of its capacity every year.

9. Transportation

Always check all applicable local, national, and international regulations before transporting a Lithium Iron Phosphate battery.

Transporting an end-of-life, damaged, or recalled Li-ion battery may, in certain cases, be specifically limited or prohibited.

The transport of the Li-ion battery falls under hazard class UN3480, class 9. For transport over water, air and land, the Li-ion battery falls within packaging group P1965 Section II.

10. Disposal and recycling

Always discharge the Li-ion battery before disposal. Use electrical tape or other approved covering over the terminals to prevent short circuits.

Battery recycling is encouraged. Dispose of the Li-ion battery in accordance with local, state and federal laws and regulations.

11. Troubleshooting

Problem	Possible reason	Solution
The capacity of the Li-ion battery has decreased	The cells within the batteries are not properly balanced or the Li-ion battery is worn out.	Perform one full charge cycle to balance the cells (see chapter 5 for balancing).
The Li-ion battery cannot be charged / discharged	The Li-ion battery has been deeply discharged. The BMS is now in "fault condition".	Disconnect all loads and charge the Li-ion battery. Then press the reset button on the BIB / BCI for at least 10-15 seconds to resolve the "fault condition".
	The Li-ion battery has been overcharged. The BMS is now in "fault condition".	Stop charging the Li-ion battery and press the reset button on the BIB / BCI for at least 10-15 seconds to resolve the "fault condition".
	The Li-ion battery has overheated. The BMS is now in "fault condition".	Stop charging the Li-ion battery and disconnect all loads and wait for the Li-ion battery to cool down. Then press the reset button on the BIB / BCI for at least 10-15 seconds to resolve the "fault condition".

Table 12. Troubleshooting

12. Warranty and liability

12.1 Upon delivery the customer is obliged to immediately verify whether the products have been damaged during transport. In the event that any such damage has arisen, the customer must notify Super B thereof as soon as possible, in any event no later than three (3) days of delivery, by means of accurate, written statement, stating the damage and where possible a photograph. Failure to inspect the products and inform Super B within the stated time or the use of the products at any time shall be conclusive evidence that Super B has satisfactorily tendered delivery.

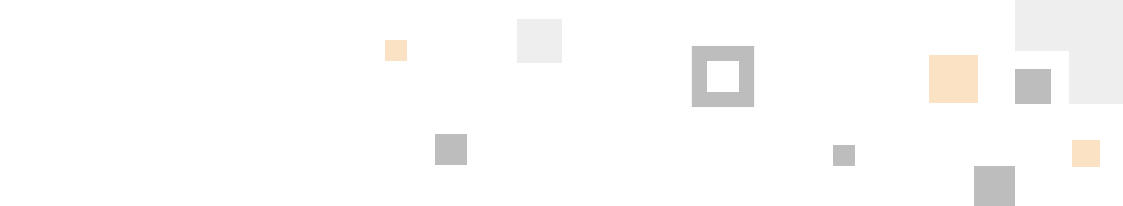
12.2 In the event that the customer demonstrates that any of the delivered products do not conform to the agreement, Super B (at its option, upon having received those products returned by the customer) has the option to either repair or replace such products by new products, or to refund the invoice value, exclusive of any dispatch costs.

12.3 Super B grants a three year limited warranty for damages caused by manufacturing defects starting at the time of delivery. Damages caused by manufacturing defects do not include damage resulting from (a) general wear and tear, (b) short circuit, (c) overcharging, (d) deep discharging, (e) overheating of Super B products (f) installation of the Super B product by persons unskilled to work with electro-technical devices or components, (g) any other wrongful use contrary to the Super B's user manual or the safety instruction, (h) any use contrary to the product specifications of that product; (i) any acts of force majeure.

12.4 The warranty period for parts of the product which have been repaired or replaced under the warranty, shall be twelve (12) months from the date of repair or delivery of the replacement.

12.5 Except as specified in the clause 12.3 and 12.4 Super B makes no warranty, whether express or implied, including without limitation any implied warranty of merchantability and fitness for a particular purpose or any warranty arising from any course of dealing, course of performance or usage of trade and specifically disclaims any representation or warranty that the product will meet customer's requirements, perform any specific function or achieve a desired result other than expressly stated by Super B in writing.

12.6 Any liability to the customer in any case ceases to apply in the event that the customer fails to notify Super B of the existence of the defect within ten (10) days of having discovered the defect, in writing, in order to enable Super B to investigate the damage. Some of Super B's products electronically store usage data, including charging/discharging data, in order to enable Super B to analyse such data retroactively when investigating damage.



12.7 Any liability of Super B for damage suffered by the customer is in any case limited to the invoice amount of the relevant products, unless such damage has been caused by gross negligence or willful misconduct of Super B. Super B can never be held liable for (a) damage caused by any of the circumstances mentioned in clause 12.3, leading to damage to the Super B products or to any other device located near those products, or (b) consequential damage, including but not limited to loss of profit, loss of production, loss of business interruption, loss of product and loss of capacity irrespective of the cause of such consequential loss or (c) goodwill.

12.8 To the extent that a court determines that the limitation of liability as meant in clause 12.7 cannot be invoked against a particular claim for damages by the customer, Super B's liability for loss of property, damage to property, and bodily injury (including death) caused by the application of those particular Super B products shall in any event be limited to the amount actually paid out by Super B's insurance company to Super B in accordance with the insurance cover of that insurance policy for that particular type of damage. Super B has taken out insurance against certain risks, as described in the respective insurance policies. These policies contain a usual limitation of insurance payment to be paid out to Super B if, and to the extent that, the event is a covered event.



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