



4K4-LT Product Design

TRANSITION BETWEEN 4k4*, 4K4PRO* AND 4K4-LT

Only 8 DIP version

Version: V2.7

4K4-LT product design

4K4-LT Definition

Light version

Product code **4K4L**

Main features

- Compatible with PRO type (not recommended due to the different intervention times between MOSFET and Contactor)
- 0,5C charge/discharge recommended
- 1C charge/discharge peak
- **New BMS + MOS board**
- **No Contactor**
- **No Built-In WiFi**
- **WiFi Dongle External Accessory**
- **Rocker switch (cut off BMS power supply)**
- Side LED strip design with button integrated (same display logic of PRO)
- Automatic wake-up and automatic address assignment (DIP 00000000 on all modules apart from last module when a 4k4PRO is connected into the loop)
- Supports 15 battery parallel applications
- Support Stack and wall-mounted installation
- **IP 30 for indoor applications only**
- **Fast fuse inside on positive line**
- **Product certification: CE/UN38.3/IEC62619/IEC62368/RoHS**
- **Can be mixed-use with 4K4PRO for capacity expansion application (NOT recommended but possible with special FW)**
(For mixed Applications need to follow the “transition rules”)



FIRMWARE AND SOFTWARE

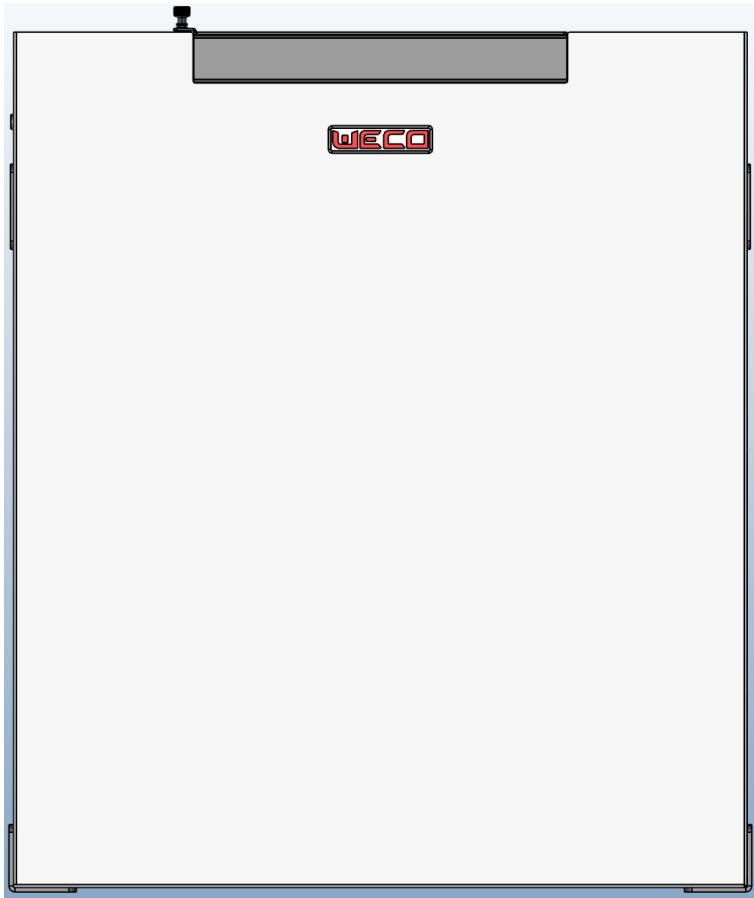


Firmware nomenclature 16.xx.bin

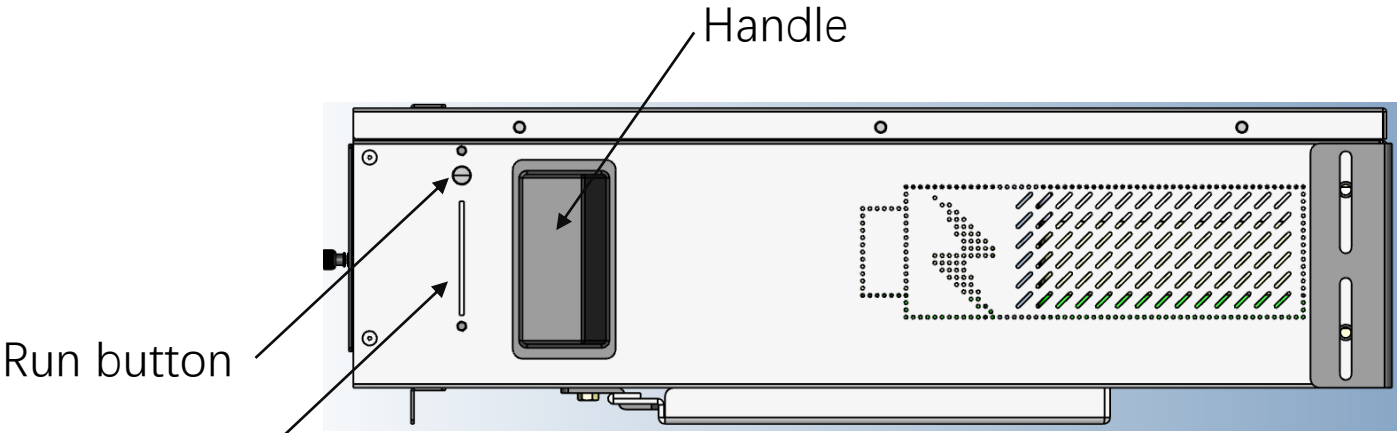
PC SOFTWARE: WECO ESS MONITOR.exe

4K4-LT Product outlook overview

Dimensions 580*490*154.5mm
RAL7015 Grey + RAL9005 Black



Front view



Side view

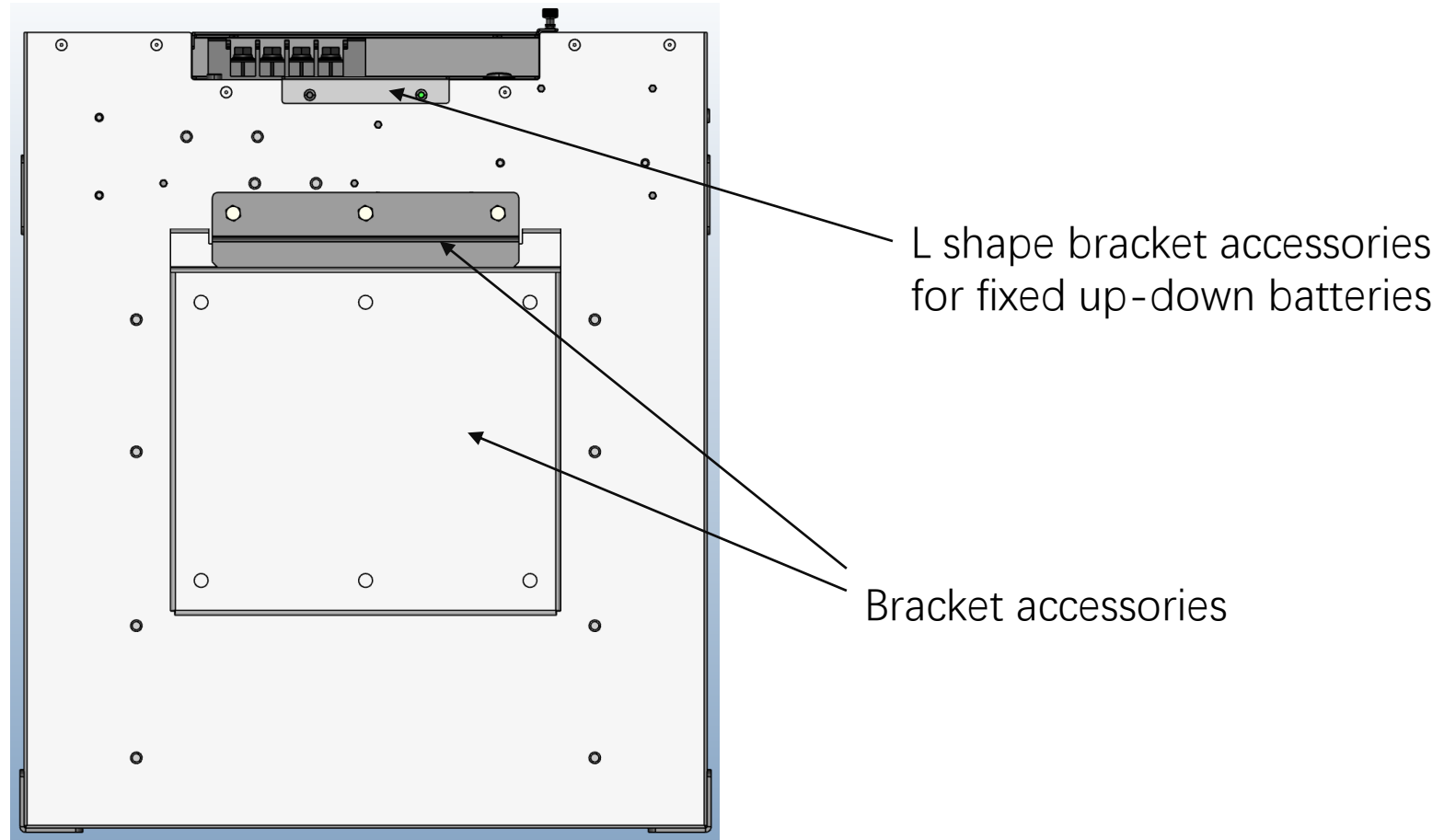
Only two Torx screws
On the bottom side



Feet with hole for wall mounting or to
fix the upper and lower batteries of a stack



4K4-LT Product outlook overview

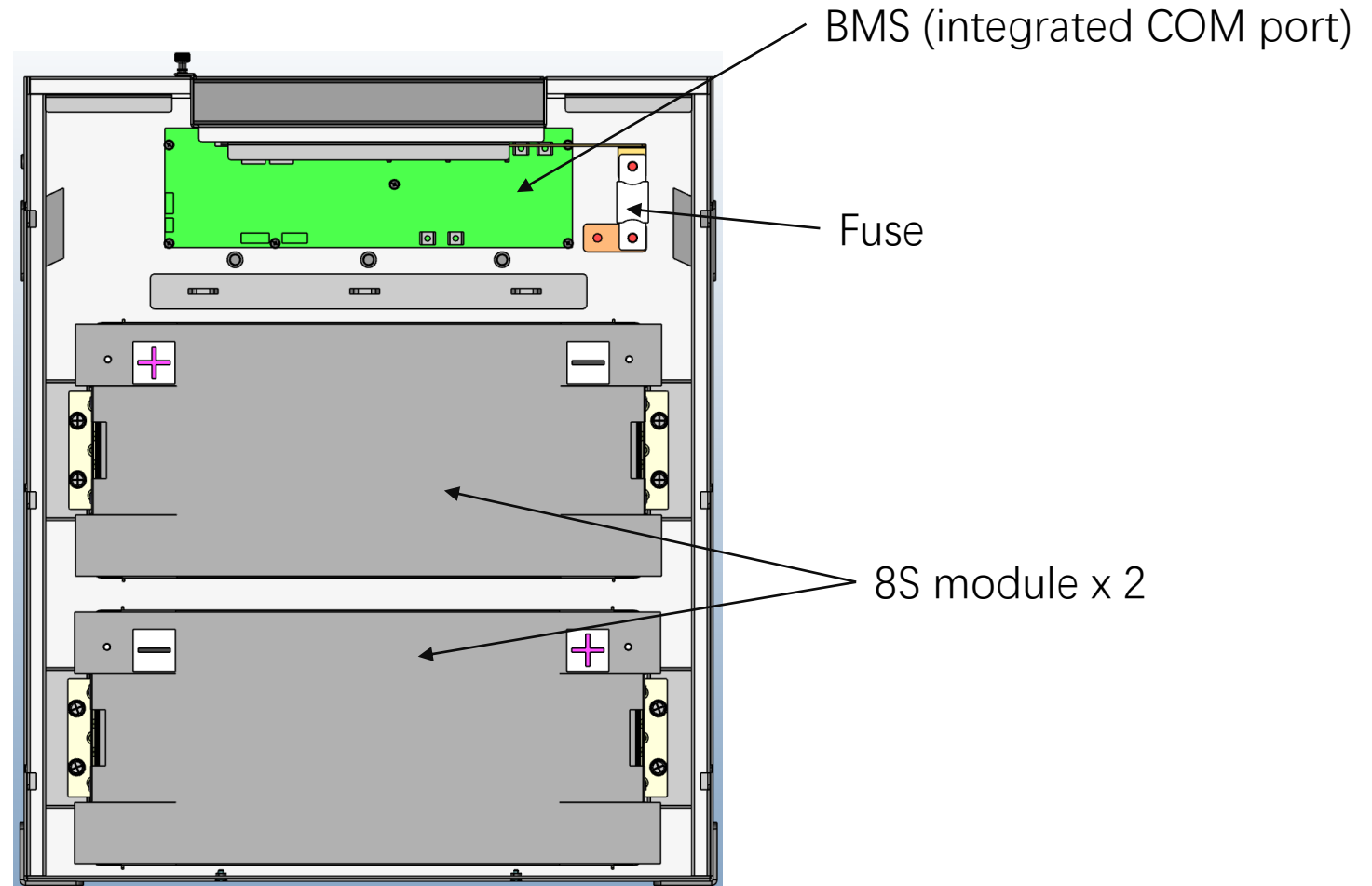


Back view

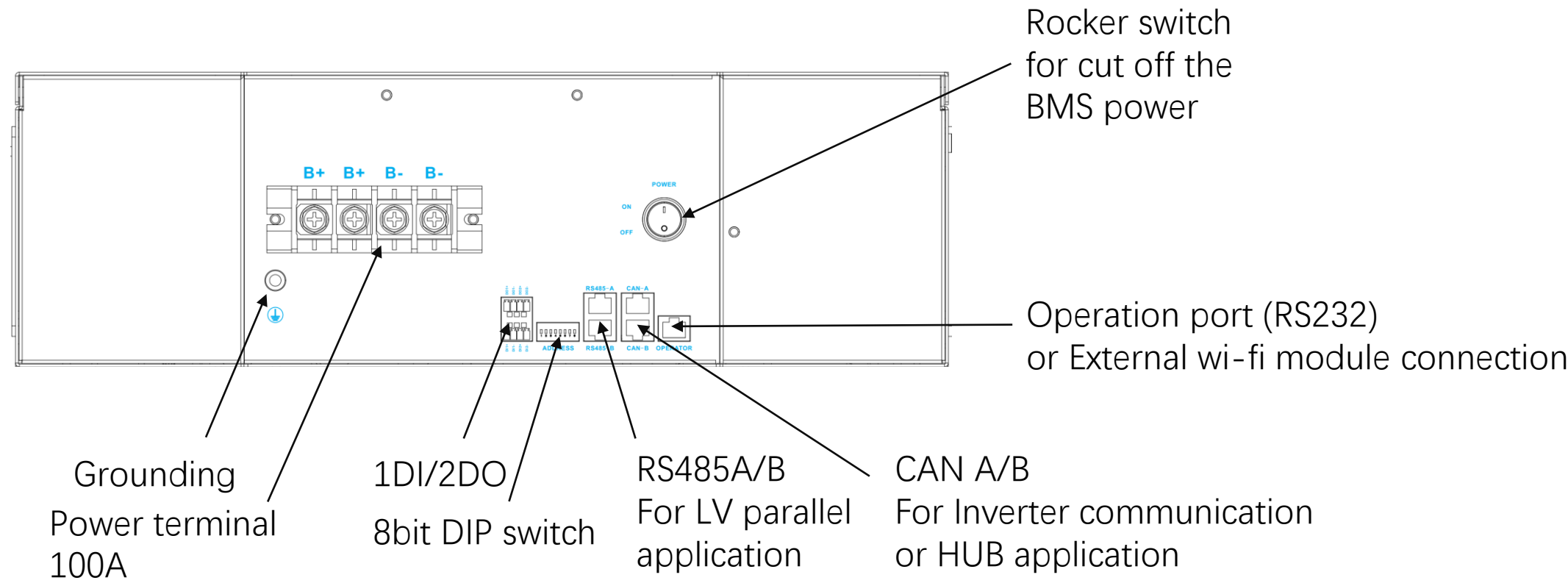
4K4-LT Product inner overview

BMS with Integrated MOSFET Relay

Contactor is not present on this version



4K4-LT Power and Comm board



Energy Storage Systems
WeCo Srl Viale Kennedy 113-121
Scarperia e San Piero CAP 50038 (FI)

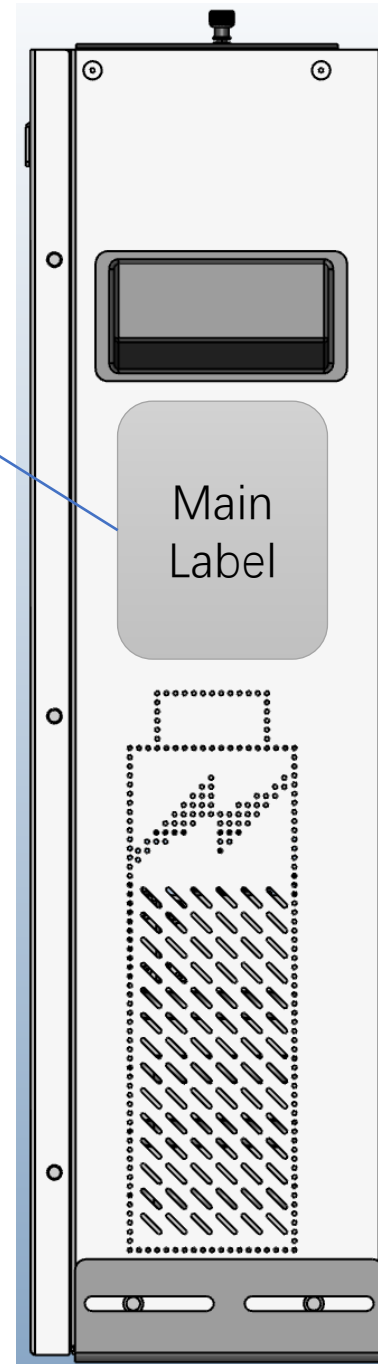


Emergency Number ITALY + 39 055-0357960	www.wecobatteries.com service@wecobatteries.com
Model Type	4K4LT
Total Usable Capacity @ Standard Test Conditions	86Ah / 4.4kWh
Cell Type	LiFeP04
Nominal Voltage	51.2 Vdc
Max BMS Voltage	58.4Vdc
Min BMS Voltage	46.5Vdc
Charging(-) Discharging (+) BMS Current	-86A +86A (Peak +130 2 sec)
Temperature Range	-20°C / +60°C
Parallel Units (Low Voltage Application Only)	15 Units (follow the parallel procedure)
IP Grade	IP21 (Indoor Application)
Dimensions	58x49x15,5 cm
Weight	54 kg
Standards	EMC (EN61000-6-6:2021/A1:2011/AC:2012) IEC 6100-6-1:2019 IEC 6100-6-2:2019 IEC 6100-6-3:2021 IEC 6100-6-4:2019 IEC 62619:2017 IEC 62368
Good Class	Dangerous Goods DG9 Category 3480
UN Class	UN 38.3 - Lithium Ion Battery
Production Date	

Read Warranty Terms and conditions before use, improper use and installation will void the warranty



WE4KL-XXX-XXXXX-XXXXXXX



Main label stick on the side
Parameter of main label
basically the same as 4K4PRO

Check the label on the left



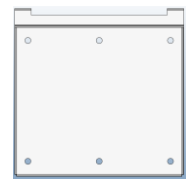
4K4-LT packing list



4K4-LT 1pcs



Bracket 1 accessory 1pcs



Bracket 2 accessory 1pcs
6 holes, 2 for reserve, fixed by 4 screws



hexagonal screw with expansion tube
4pcs
For fixed bracket 2 on the wall



Round head hexagon socket combination screw
3 pcs
For fixed bracket 1 on the battery



Red, 2.5 meters, 25mm diameter power cable,
SC25-8 terminals at both ends 1pcs



Black, 2.5 meters, 25mm diameter power cable,
SC25-8 terminals at both ends 1pcs



Parallel comm cable
Blue, RJ45-RJ45, the cable length is 1.5 meters



Inverter comm cable
Black, RJ45-RJ9, the cable length is 2.5 meters



Desiccant 200g/bag 1pcs

4K4-LT CARTON BOX



WeCo is committed to protecting the environment by using recyclable and compostable packaging.

Help the environment, reuse and recycle this packaging following the instructions of your Municipality.

REUSE BEFORE RECYCLE

THIS PACKAGING IS 100% RECYCLABLE

WeCo si impegna a proteggere l'ambiente utilizzando imballaggi riciclabili e compostabili.

Aiuta l'ambiente, riutilizza e ricicla questo imballo seguendo le indicazioni del tuo Comune.

RIUTILIZZA PRIMA DI RICICLARE

QUESTO IMBALLAGGIO È RICICLABILE AL 100%



QTY: 1 PCS

N.W: KG

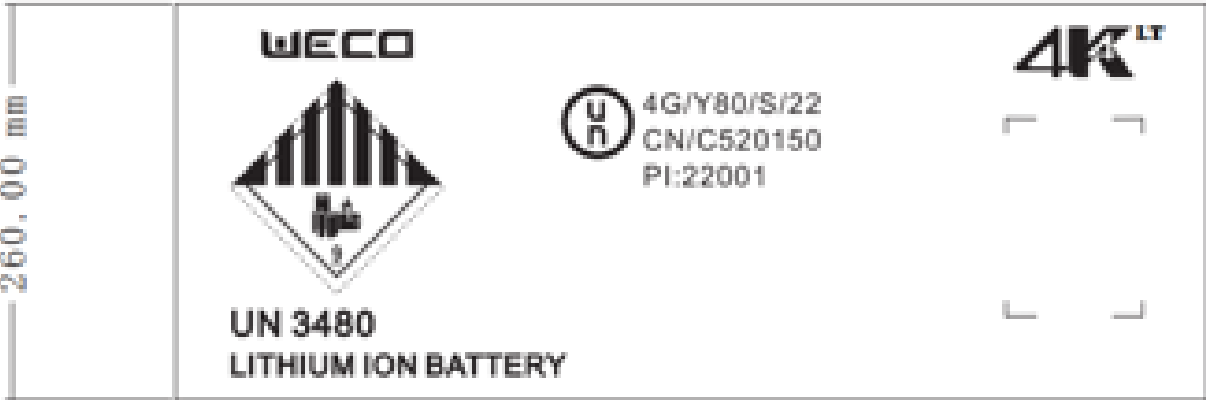
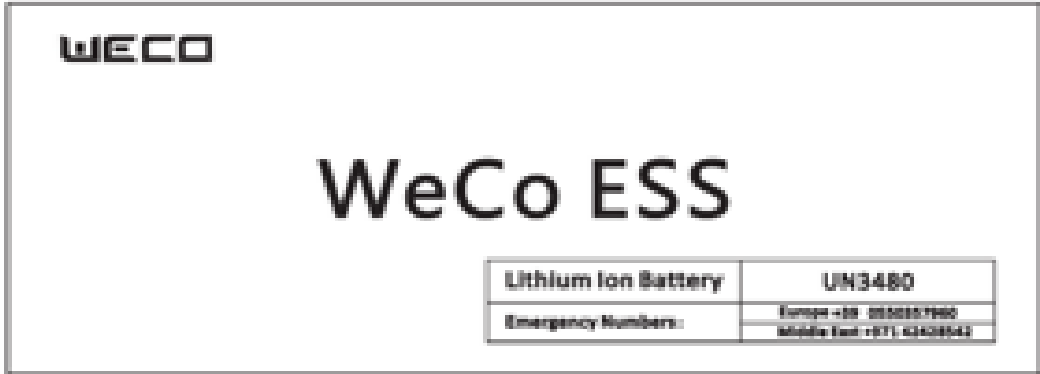
G.W: 55 KG

MEAS: 68X58.5X26 CM

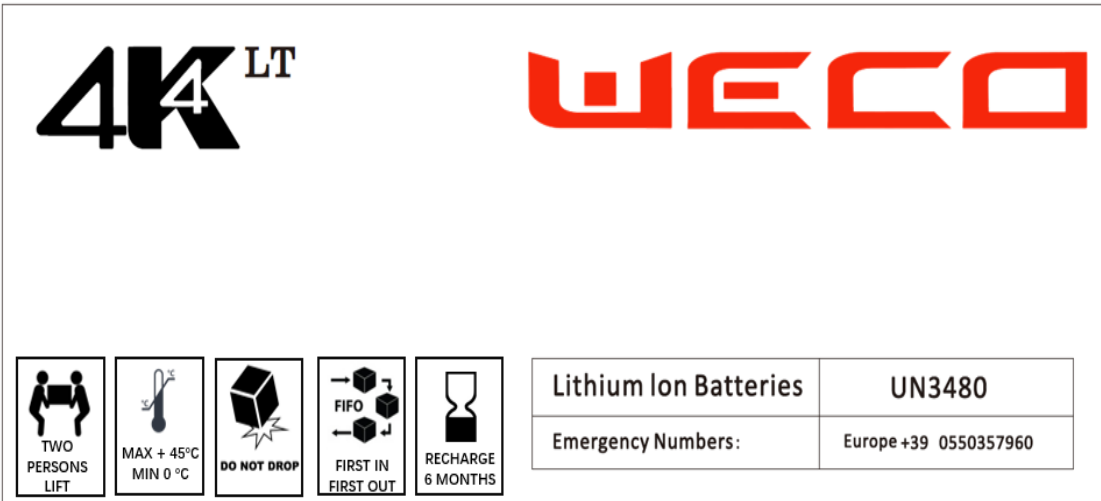
This packaging is 100% recyclable

4K4^{LT}

WeCo Srl
Firenze-Italia
weco@wecobatteries.com
www.wecobatteries.com

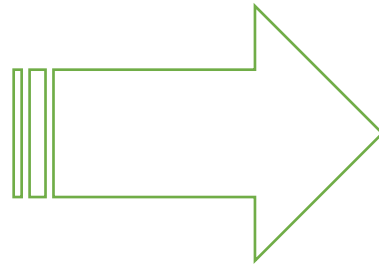


Lithium Ion Battery	UN3480
Emergency Numbers:	Europe +39 0550357960 Mobile Italy +39 334388543



Lithium Ion Batteries	UN3480
Emergency Numbers:	Europe +39 0550357960

TRANSITION BETWEEN 4K4PRO AND 4K4-LT



4K4 PRO & 4K4-LT

4K4	2019-2020	---	EXISTING MODULE * 8 DIP ONLY
4K4PRO	2020-2022	---	EXISTING MODULE
4K4-LT	2023	---	NEW MODEL + ADDITIONAL FEATURES

EXPANSION OF AN EXISTING CLUSTER WITH NEW MODEL 4K4-LT

Important Note

FW 4K4/4k4 PRO required for parallel with 4k4 LT FW version 3.81 or higher

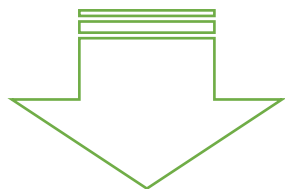
FW 4k4 LT required for parallel with 4K4 PRO 16.10 or the last FW available on the website

<https://wecobatteries.com/download-area/batteries/>

Application Scenario: LOW VOLTAGE CLUSTER AND HUB SYSTEM

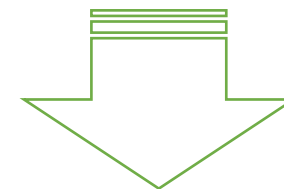


NEW MODEL NOMENCLATURE USED IN THIS DOCUMENT



DESCRIBED AS
4K4P MODEL

FW 3.xx (HEX)



DESCRIBED AS
4K4L MODEL

FW 16.xx (BIN)

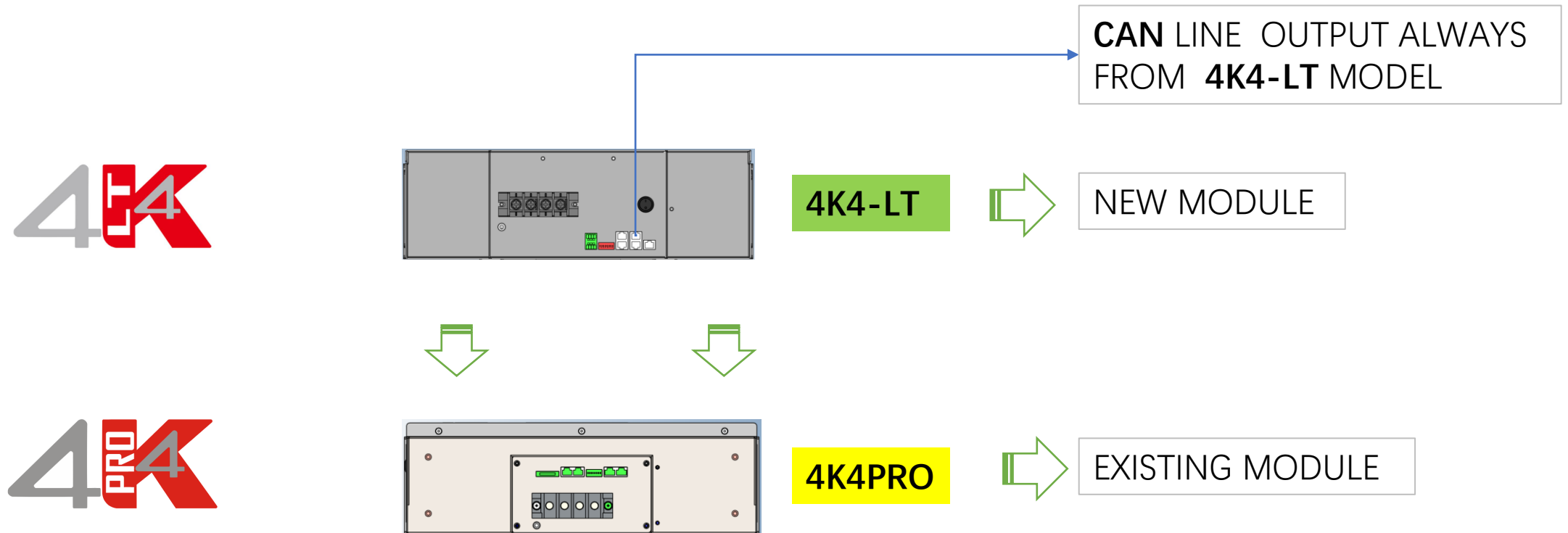


ATTENTION

The two models having different FW and
cannot be exchanged due the different
extension

NEW MODEL 4K4-LT MUST BE INSTALLED ON TOP (AS MASTER) OF AN EXISTING BATTERY CLUSTER

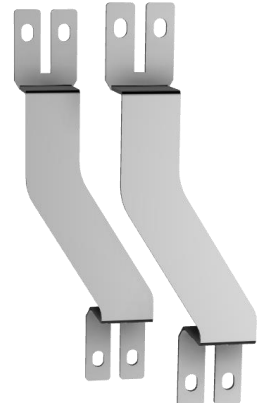
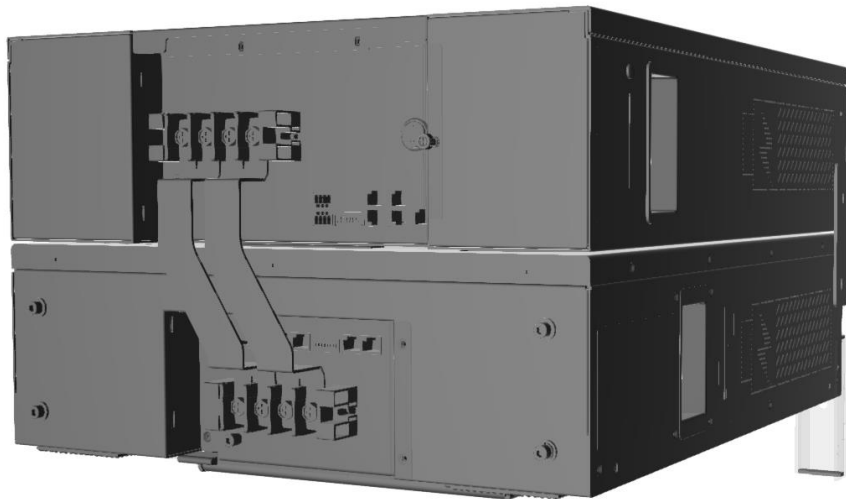
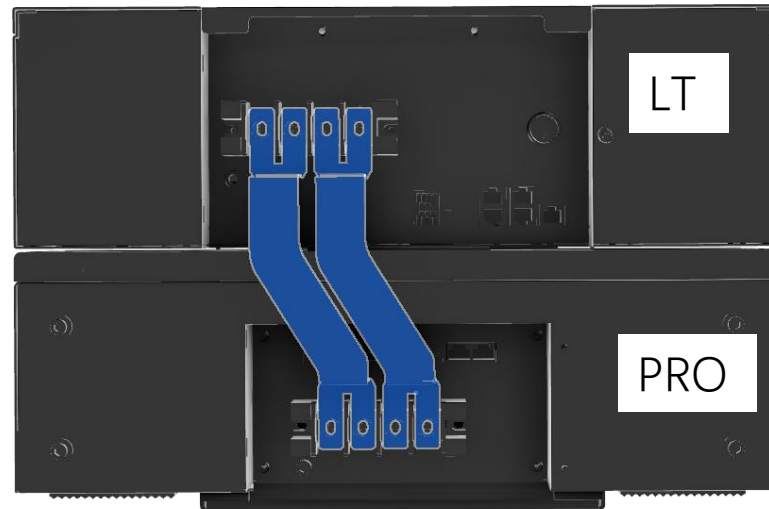
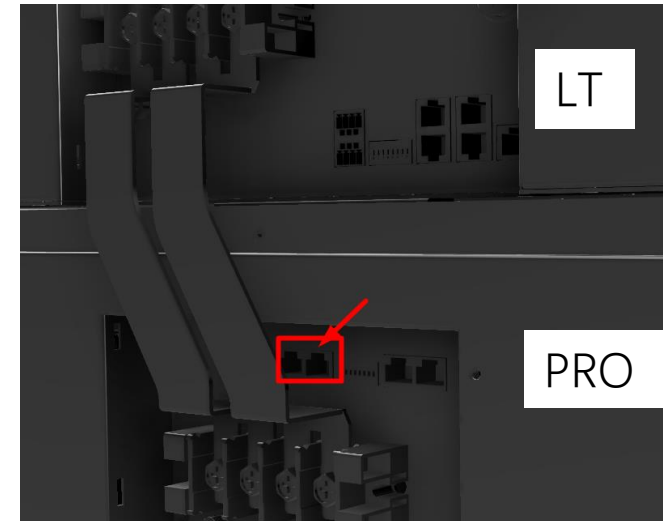
CAN INTERFACE WITH THE INVERTER MUST BE FROM THE 4K4LT ADDED TO AN EXISTING CLSUTER



NEW MODEL 4K4-LT MUST BE INSTALLED ON TOP (AS MASTER) OF AN EXISTING BATTERY CLUSTER

A special Bus bar or power cables can be provided on request

A special Connection Hub Lid can be provided on request



Eliminated the Clashes
between Bus bar and
RJ45 ports



DIP SWITCH SETTINGS

4K4-LT LOW VOLTAGE SINGLE CLUSTER (ALL NEW MODELS) MAX 15 UNITS LV SET UP INSTRUCTION

Step1 DIP SWITCH SET UP

All the other batteries be set as 0000 0000.
The last battery MUST be set as 0000 0100.

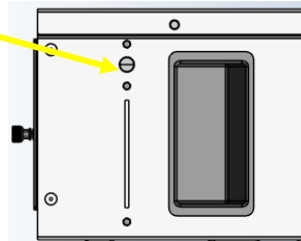
Setp2 TURN ON THE MAIN SWITCH

The 4K4-LT is equipped with a Power Switch on the front panel, close to RJ45 socket

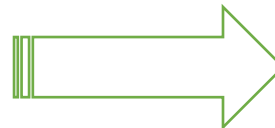
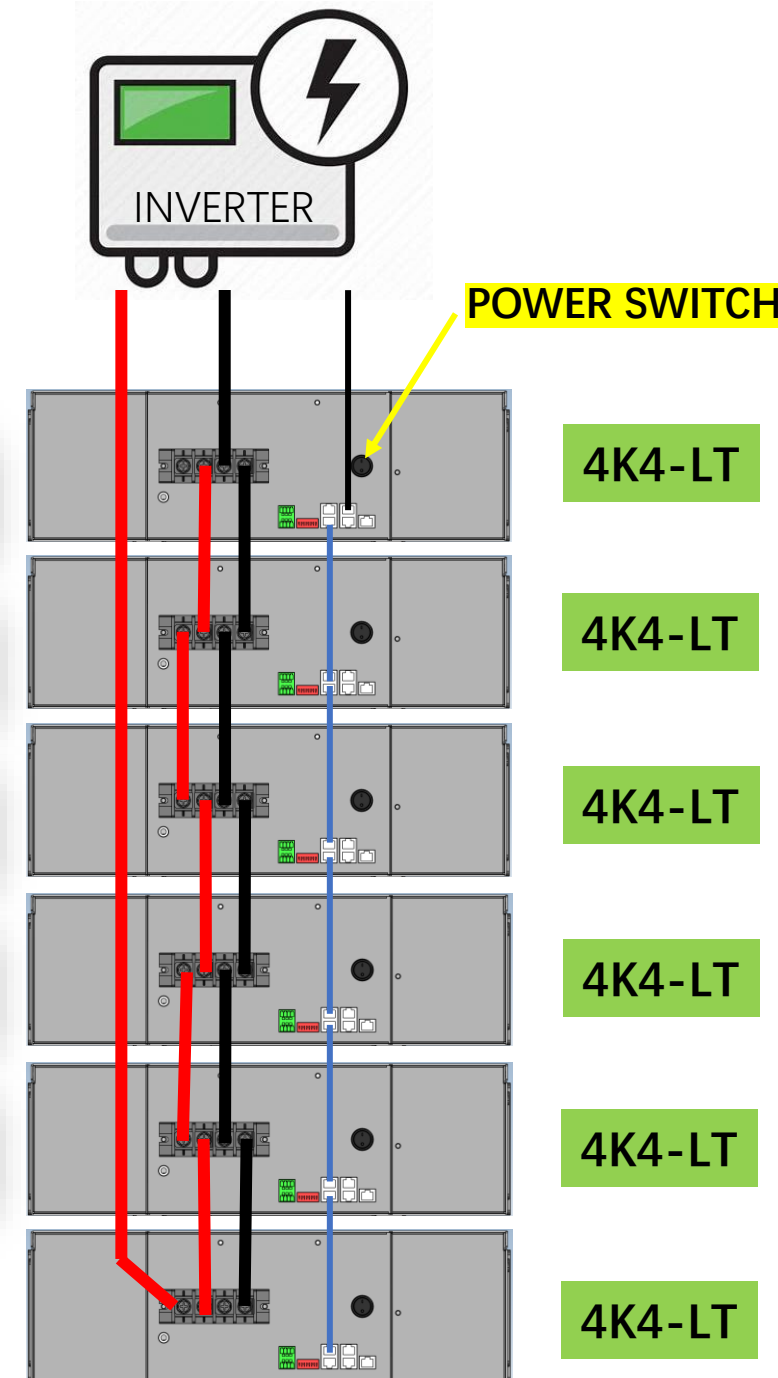
Setp3 PRESS THE RUN BUTTON OF THE MASTER

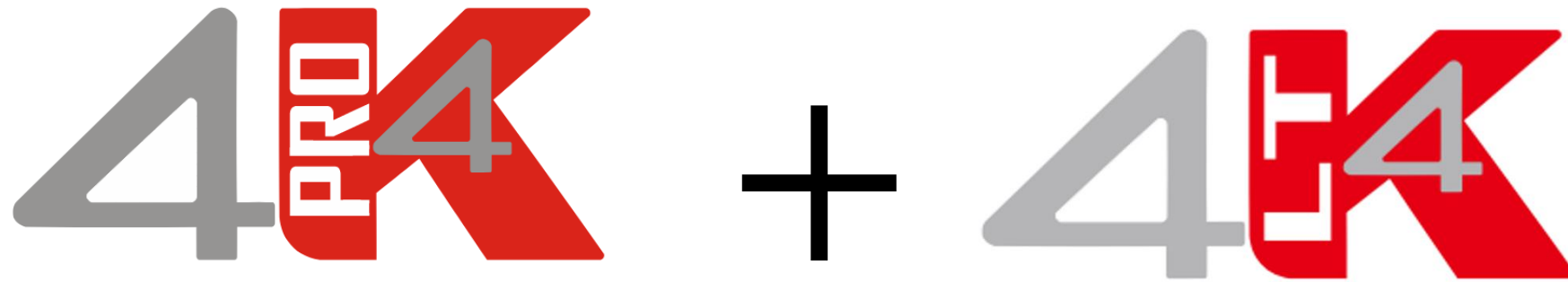
All the Slaves will automatically wake up

Run button (on the side)



LAST MODULE DIP 6 ACT AS TERMINATOR





MIXED USE APPLICATION
INTERCONNECTION AND DIP SWITCH SETTINGS

OK

INVERTER

POWER SWITCH

4K4-LT

4K4-LT

4K4-LT

4K4PRO

4K4PRO

4K4PRO

KO

INVERTER

POWER SWITCH

4K4-LT

4K4-LT

4K4PRO

4K4-LT

4K4PRO

4K4PRO

KO

INVERTER

POWER SWITCH

4K4-LT

4K4-LT

4K4PRO

4K4-LT

4K4PRO

4K4-LT

4K4PRO + 4K4-LT LOW VOLTAGE SINGLE CLUSTER EXPANSION

MAX 8 UNITS LV

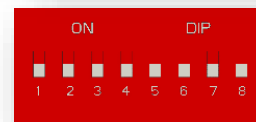
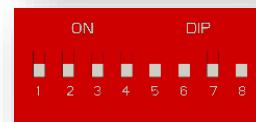
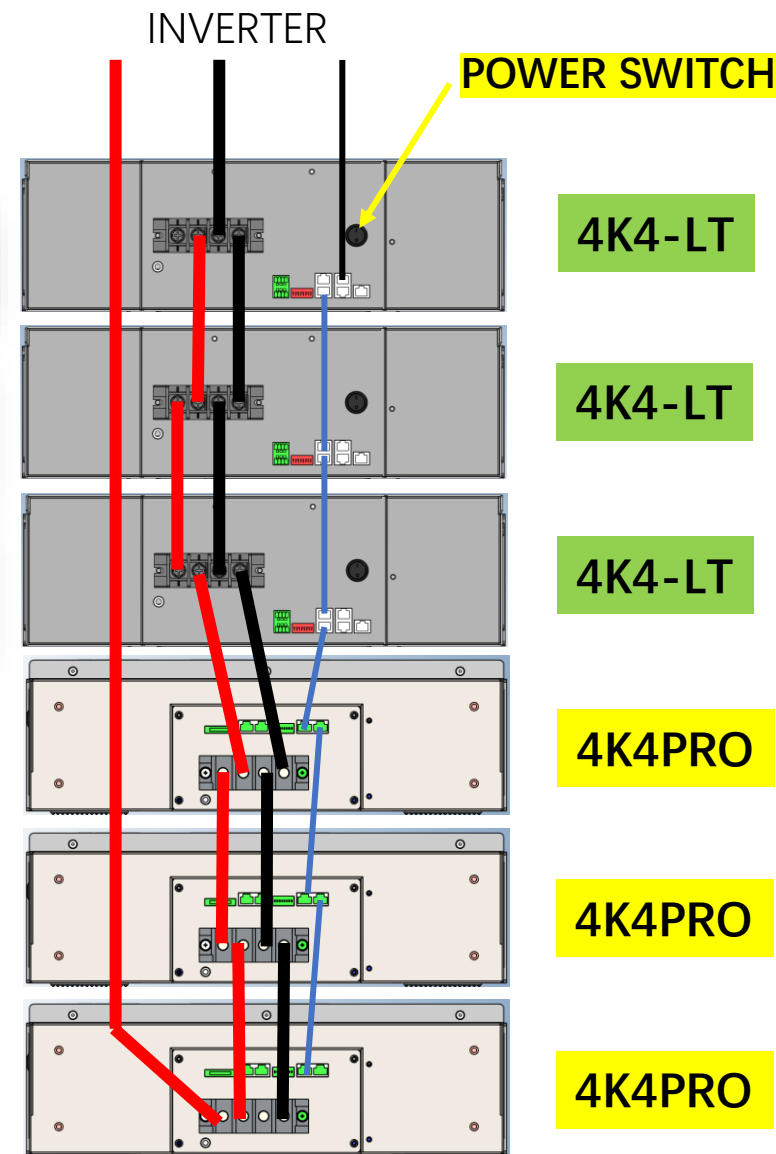
THE 4K4-LT (New Model) MUST BE THE MASTER BATTERY AND UPPER ONES.
THE 4K4PRO MUST BE THE LOWER ONES

Mixed systems are allowed when
expanding existing systems.
For new installations, always use all
batteries of the same model.

THE 4K4-LT DIP MUST BE SET AS 0000 0000

THE 4K4PRO TO BE SET USING THE ADDRESSING
METHOD ACCORDING TO THE 4K4PRO MANUAL

4K4PRO MUST HAVE DIP 6 ON



4K4PRO+ 4K4-LT LOW VOLTAGE CLUSTER EXPANSION

MAX 8 UNITS LV

Step1

DIP switch setup

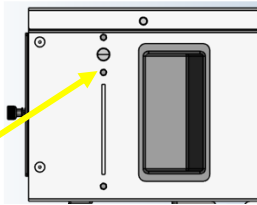
Step2

Turn on all the 4K4-LT batteries power switches

Step3

PRESS RUN BUTTON OF THE MASTER

Run button (on the side)

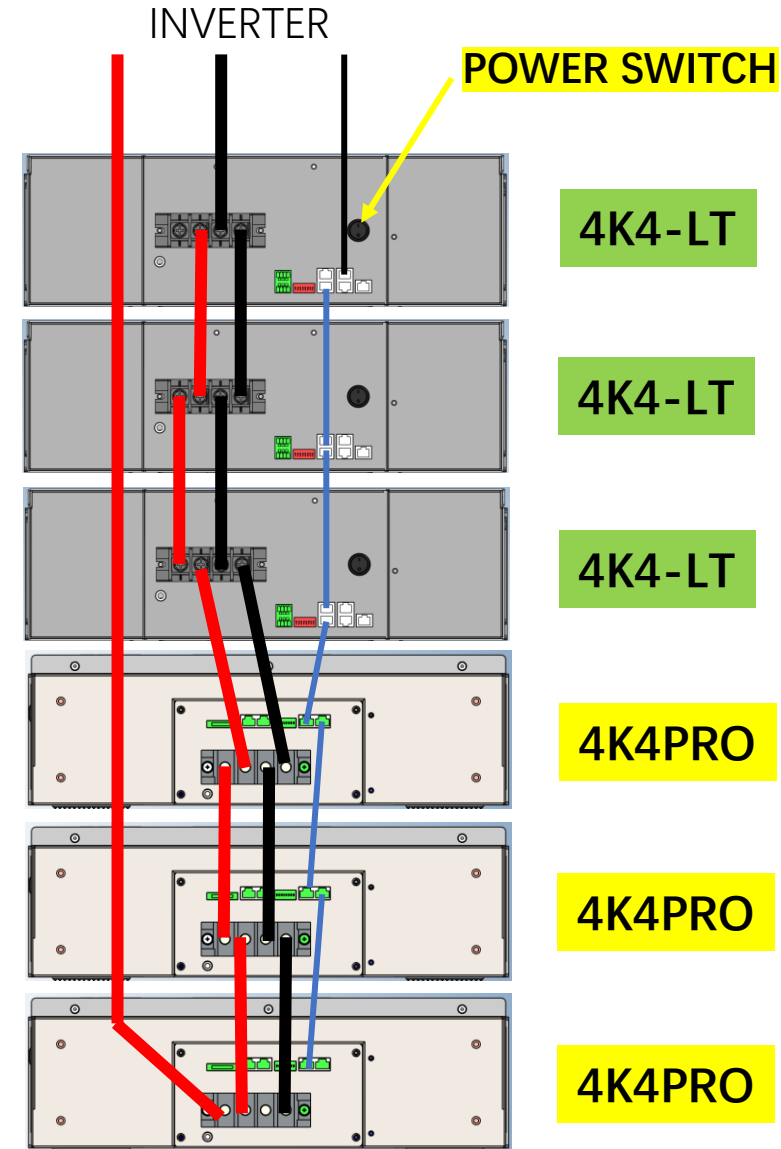


The master will initiate the Wake Up process

Step4

turn on (Manually) every 4K4PRO battery
4K4PRO BATTERY HAS NO POWER SWITCH
(Press RUN BUTTON 2 sec. to WakeUp)

Run button (on the side)



LOW VOLTAGE HUB

MAX 7 CLUSTERS AND 15 BATTERIES EACH CLUSTER



4K4-LT MULTI CLUSTER HUB APPLICATION

MAX 7 CLUSTERS AND 15 BATTERIES EACH CLUSTER

Step 1: Set the parallel clusters per manual (same as single cluster), connect the RS485 cables, connect the power cables

Step 2: Set the **cluster address** on the **master battery DIP** to assign the Cluster ID

Step 3: Set the **last battery** DIP address as 0000 0100 to all the clusters.

Step 4: Set all the **other 4K4-LT model batteries** DIP address as 0000 0000 of all the clusters.

Step 5: Turn on the power switches of all the batteries.

Step 6: Wake up the master batteries of all the clusters.



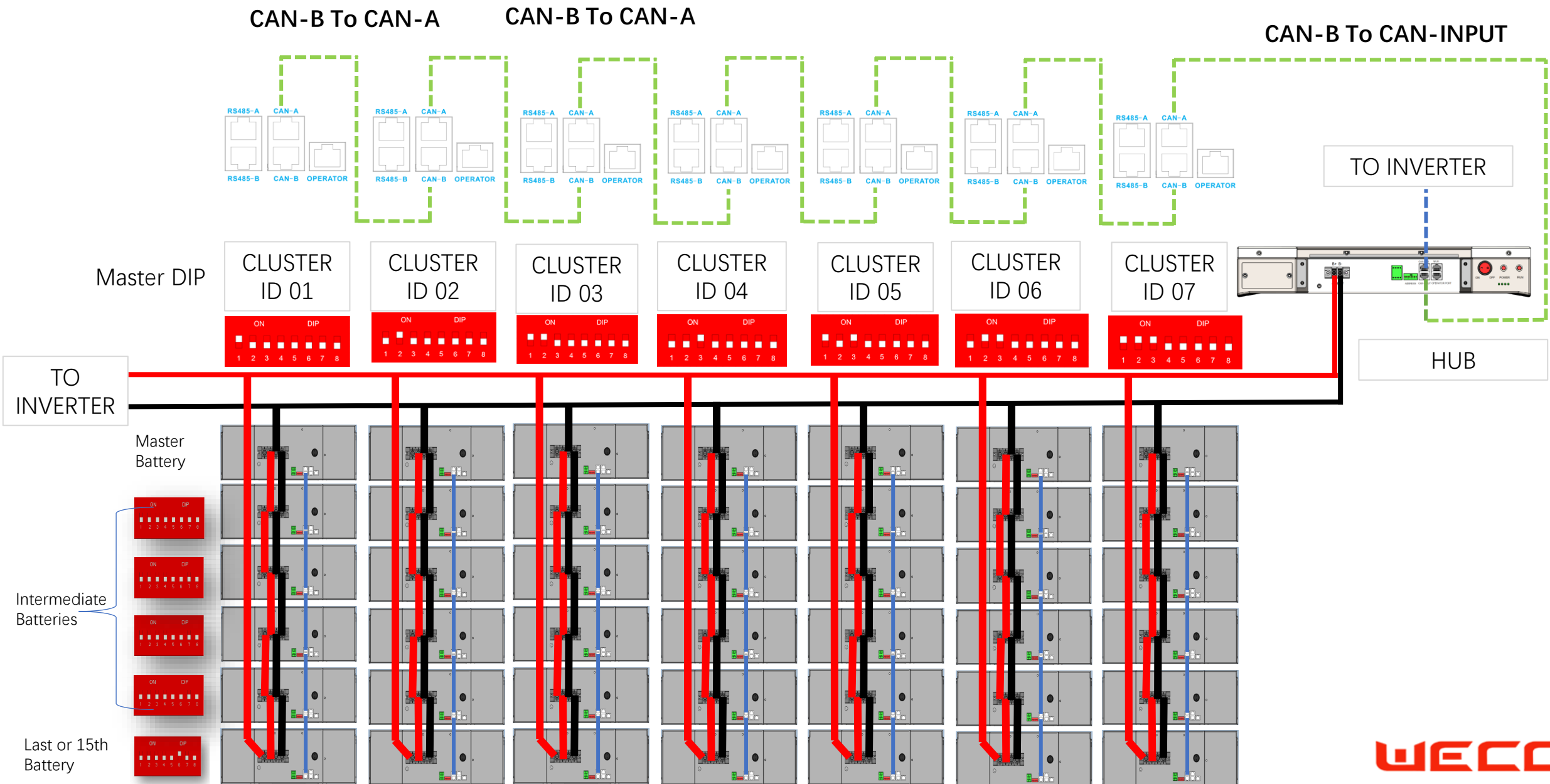
EACH MASTER BATTERY MUST BE SET WITH A CLUSTER ID
TO BE IDENTIFIED BY THE LV HUB

Master DIP



4K4-LT MULTI CLUSTERS APPLICATION (HUB)

MAX 7 CLUSTERS AND 15 BATTERIES EACH CLUSTER



COMPOSITION OF AN HUB SYSTEM WITH MIXED MODELS 4K4PRO AND 4K4-LT



A MIXED CLUSTER CONNECTION BETWEEN 4K4PRO and 4K4-LT IS LIMITED TO **EIGHT**

4K4-LT + 4K4PRO LOW VOLTAGE HUB WITH MULTI-CLUSTERS

MAX 7 CLUSTERS AND 8 BATTERIES EACH CLUSTER

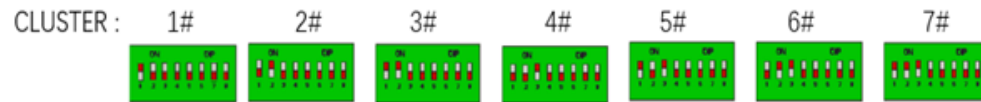
Composing the Cluster adding the New 4K4-LT on top as master battery of the existing 4K4PRO Modules tower

In a mixed multi-clusters system each master battery of each cluster must be a 4K4LT

Set the DIP SWITCH of the first Cluster master as ID 01

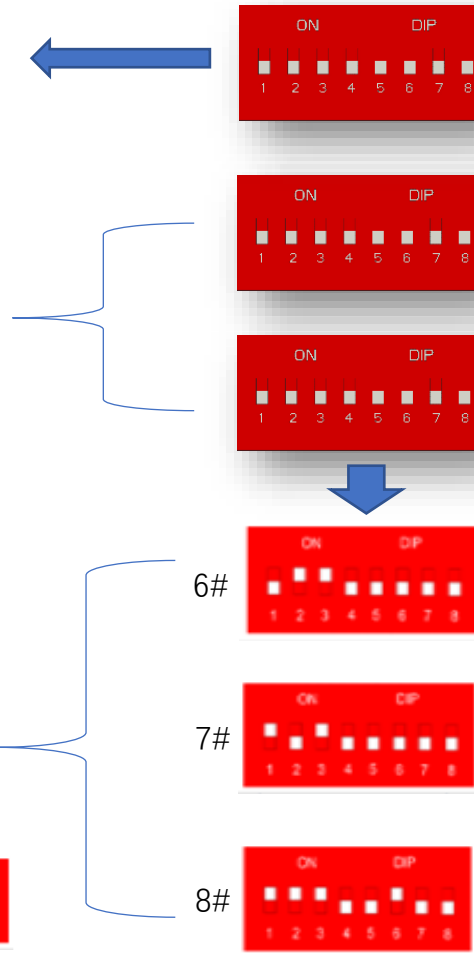
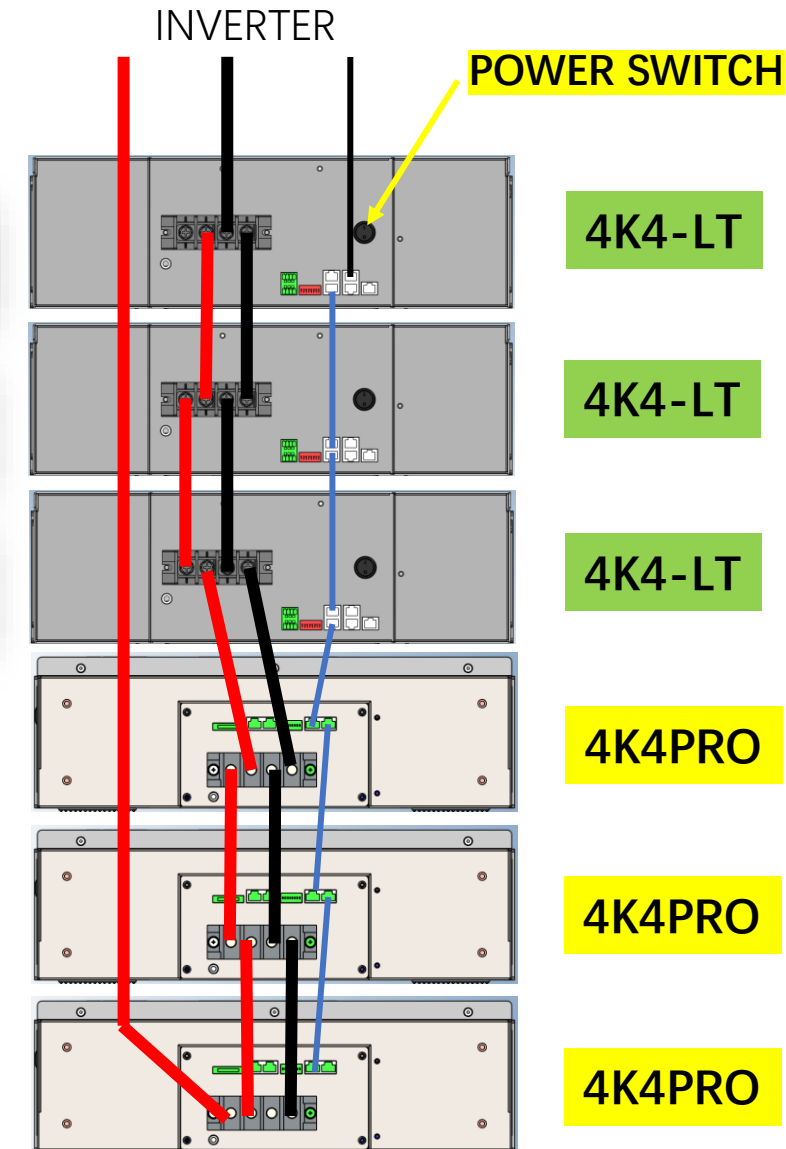
(All Masters of the remaining Clusters MUST be set with consecutive ID)

4K4-LT MASTER MUST BE SET AS THE CLUSTER ID ADDRESS



4K4-LT INTERMEDIATE MODULES MUST BE SET AS 0000 0000

THE 4K4PRO MUST BE SET MANUALLY WITH THE ID
ACCORDING WITH THE PHYSICAL POSITION IN THE CLUSTER



4K4-LT + 4K4PRO LOW VOLTAGE HUB WITH MULTI-CLUSTERS

MAX 7 CLUSTERS AND 8 BATTERIES EACH CLUSTER

