5K3XP

5K3

Production Date: June 2020 – March 2022

5K3XP

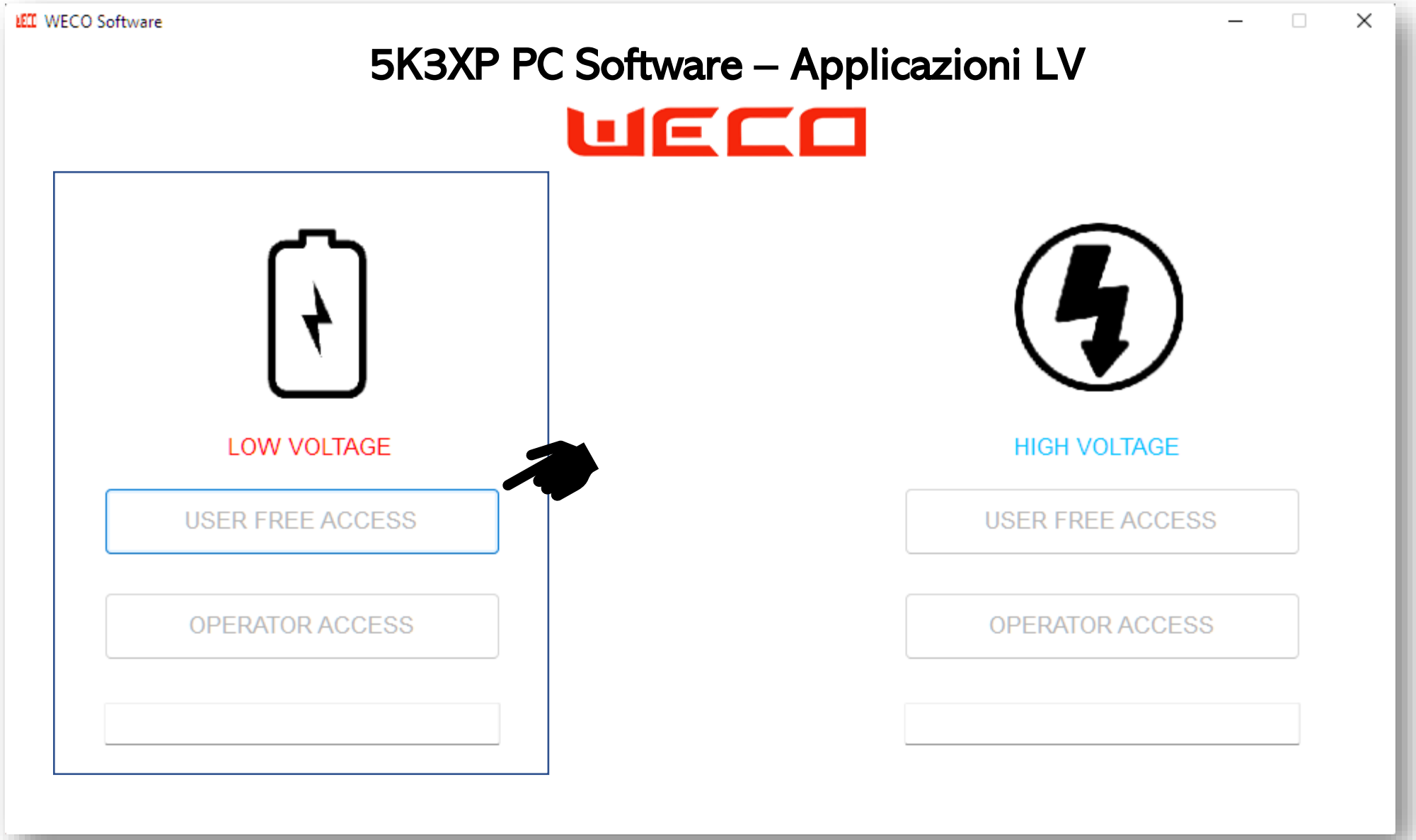
Expected Time on the market : March 2022 – March 2025

KEY DIFFERENCES BETWEEN 5K3 LV/HV and 5K3-XP

	BMS Power Switch	Dual Voltage	Capacity 105Ah 52Vdc	HV BOX up to 1000Vdc	Single CAN + DI/DO RJ 45 cable	Installation Compatibility LV/HV XP (ADD ON)	BMS New Generation Pulse Equalizer	Whole Cluster FW Upgrade Via Master (LV)	Whole Cluster FW upgrade (HV BOX + Battery) via HV BOX	Calendar Data Logs Accessible in CSV from BMS	WiFi and Bluetooth Inbuilt	LV Parallel 15 modules	Series Connection 16 Modules	HV BOX Start Up 80Vdc (2 Modules)	HV HUB Single Branch Comm (10 in parallel)
5K3	✗	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✓
5K3XP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1. 5K3XP ha un formato FW diverso in **.bin**. e non può essere installato sul vecchio BMS che supporta solo i file **.hex**.
2. Il .bin FW e il .hex FW sono pienamente compatibili e la comunicazione tra XP e LV/HV è garantita
3. Un cluster esistente composto da 5K3LV/HV può essere espanso utilizzando 5K3XP seguendo determinate regole.
4. Un cluster misto non può essere monitorato da remoto tramite WiFi APP
5. Il BMS di nuova generazione del 5K3-XP può essere utilizzato come parte di ricambio del BMS che equipaggia il 5K3LV/HV
6. 5K3XP deve essere monitorato e programmato con il nuovo software per PC, il software ha la stessa interfaccia e funzionalità del software 5K3LV / HV.

5K3XP PC Software – Applicazioni LV



Overview | ParallelOverview | Save & Exit

WECO

Status Of Charge: ---%

Status: ---

Instant Power: ---kW

Charging Time: ---	Battery Voltage: ---	Modules Connected: ---
Discharging Time: ---	Current: ---	Modules Delta SOC: ---
Standby Time: ---	Cell Delta Voltage: ---	Modules Delta Temp: ---
Charge Energy : ---	Inverter protocol: ---	COM Port:
Discharge Energy: ---	BMS Version: ---	Connect : CONNECT
Energy Cycles: ---	Firmware Version: ---	Status:

Search New Firmware | Load Firmware

Overview | ParallelOverview | Save & Exit

Parallel Data

System Power: ---
Max Voltage: ---
System Voltage Difference: ---
Max temp °C: ---
System Charge Current Sent: ---
System SOC: ---
Min Voltage: ---
System Voltage: ---
Min Temp °C: ---
System Discharge Current Sent: ---
Modules Connected: ---

Master

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave1

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave2

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave3

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave4

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave5

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Discharge Time: 0
Capacity(AH): 0
0
Main Contactor:

Slave6

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave7

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave8

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave9

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave10

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave11

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave12

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave13

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Slave14

Voltage(V): 0
Current(A): 0
Max Cell(V): 0
Min Cell(V): 0
Max Temp(°C): 0
Min Temp(°C): 0
Capacity(AH): 0
0
Main Contactor:

Overview | ParallelOverview | Save & Exit

Save Log as XLS files and exit PC Program: Save Exit

If the PC Program exit abnormal,the csv file can transfer to xls file:

Import csv file:

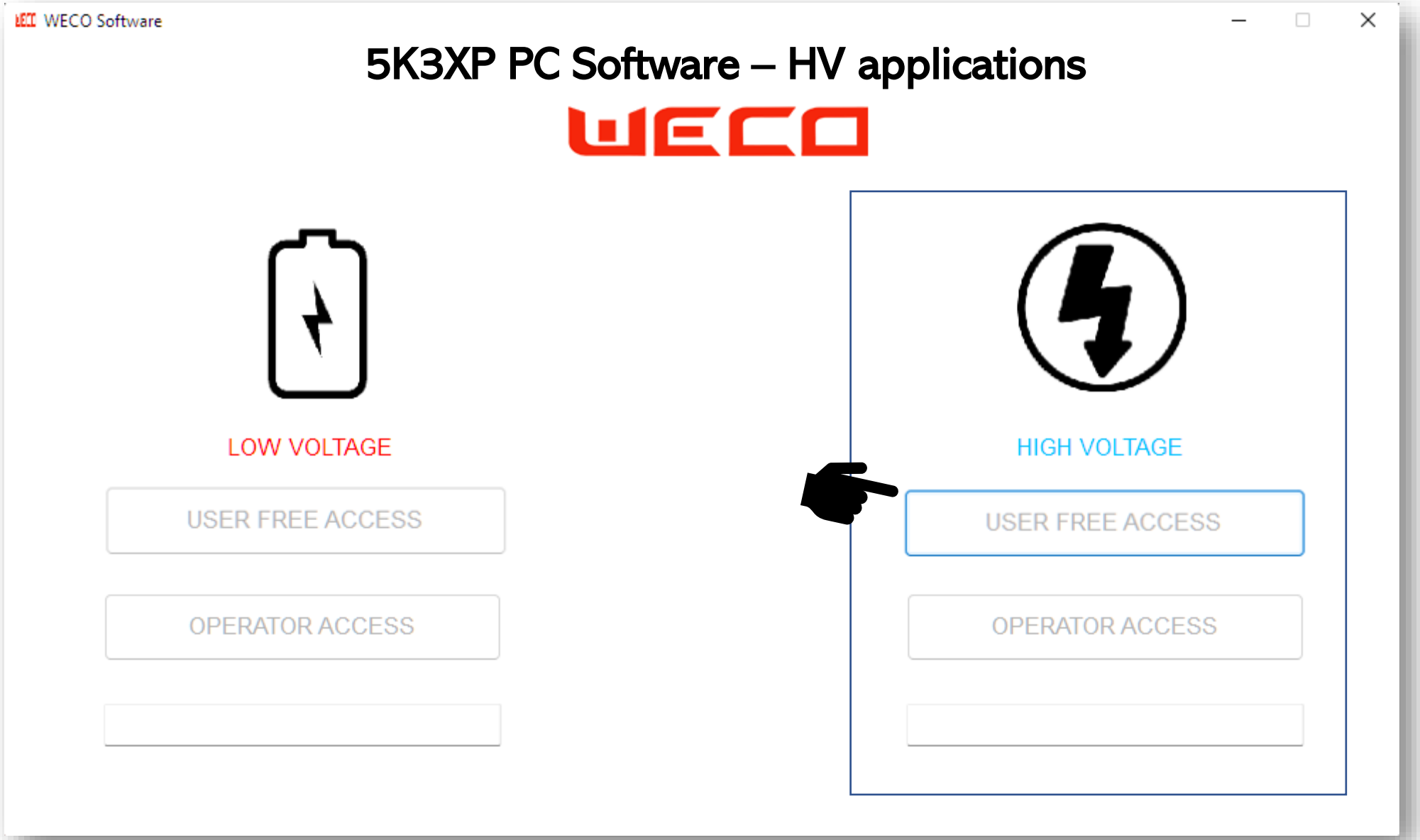
XLS File Generator:

Historical data parsing tools:

Import txt file:

XLS File Generator:

5K3XP PC Software – HV applications

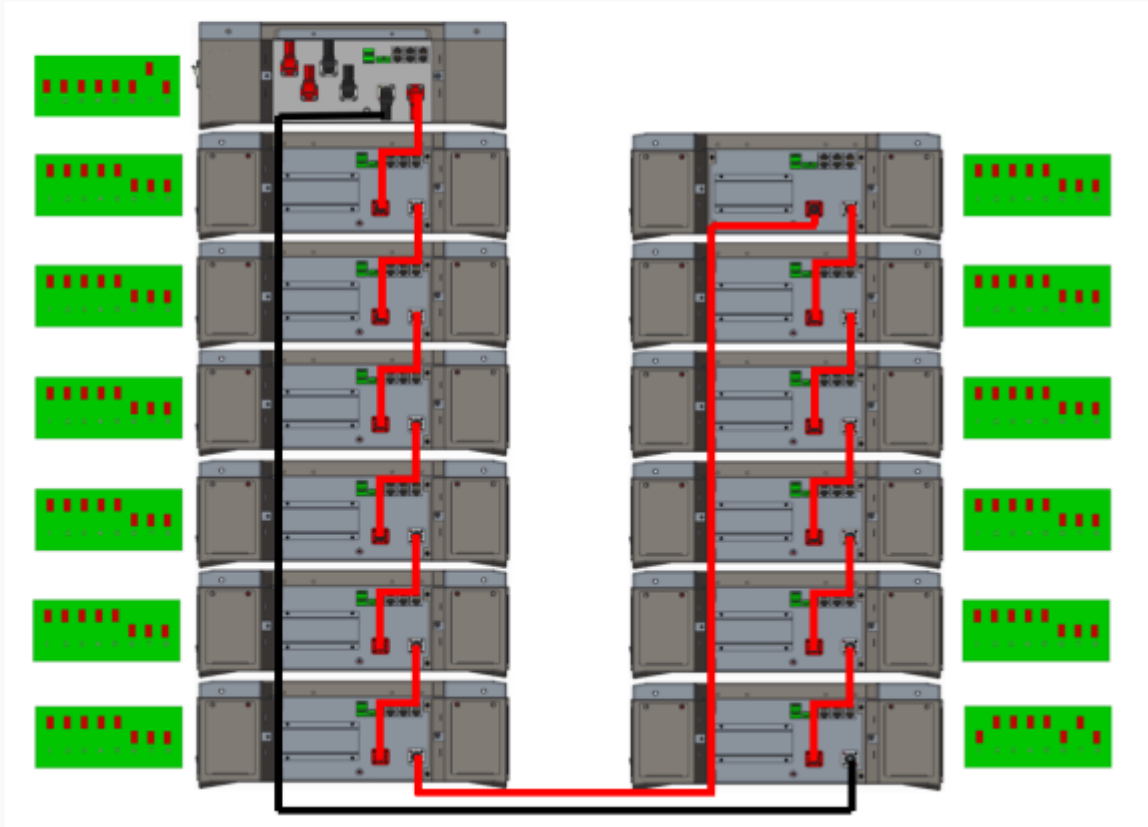


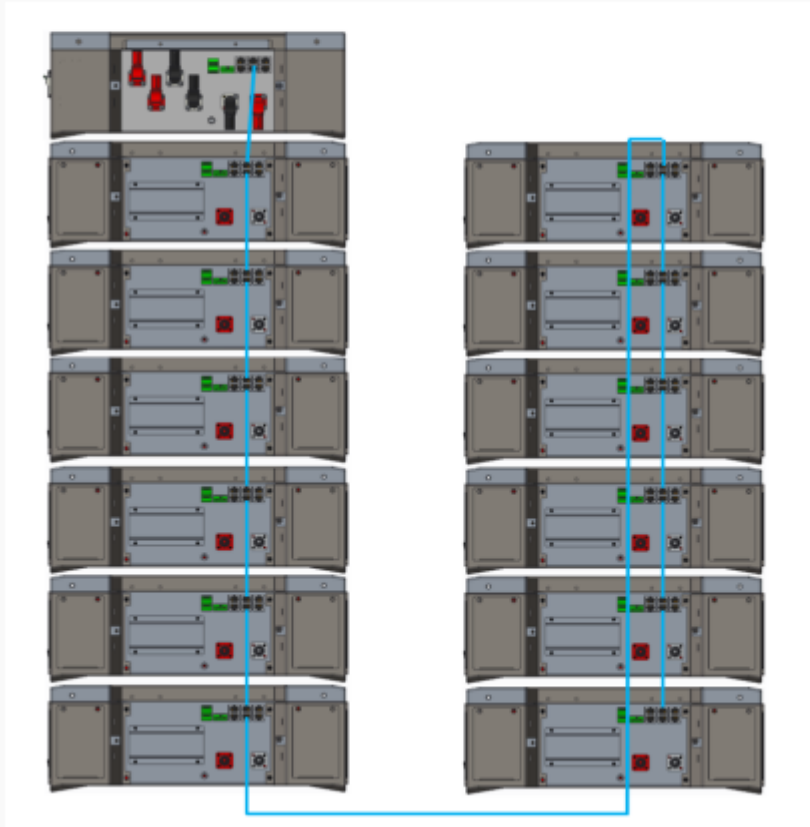
Step1 | Step2 | Overview | System Info | Module Info

Step 1: Set the DIP switch as shown in the following figure.

Step 2: Connect each battery module in series and ensure that the polarity of the connection to the HV box is correct.

Step 3: Connect the RJ45 cable from the HV box CAN1-B port to the CAN-A port of the first battery module. Next, connect the CAN-B port of the previous battery module to the Can-A port of the next battery module through the RJ45 cable.





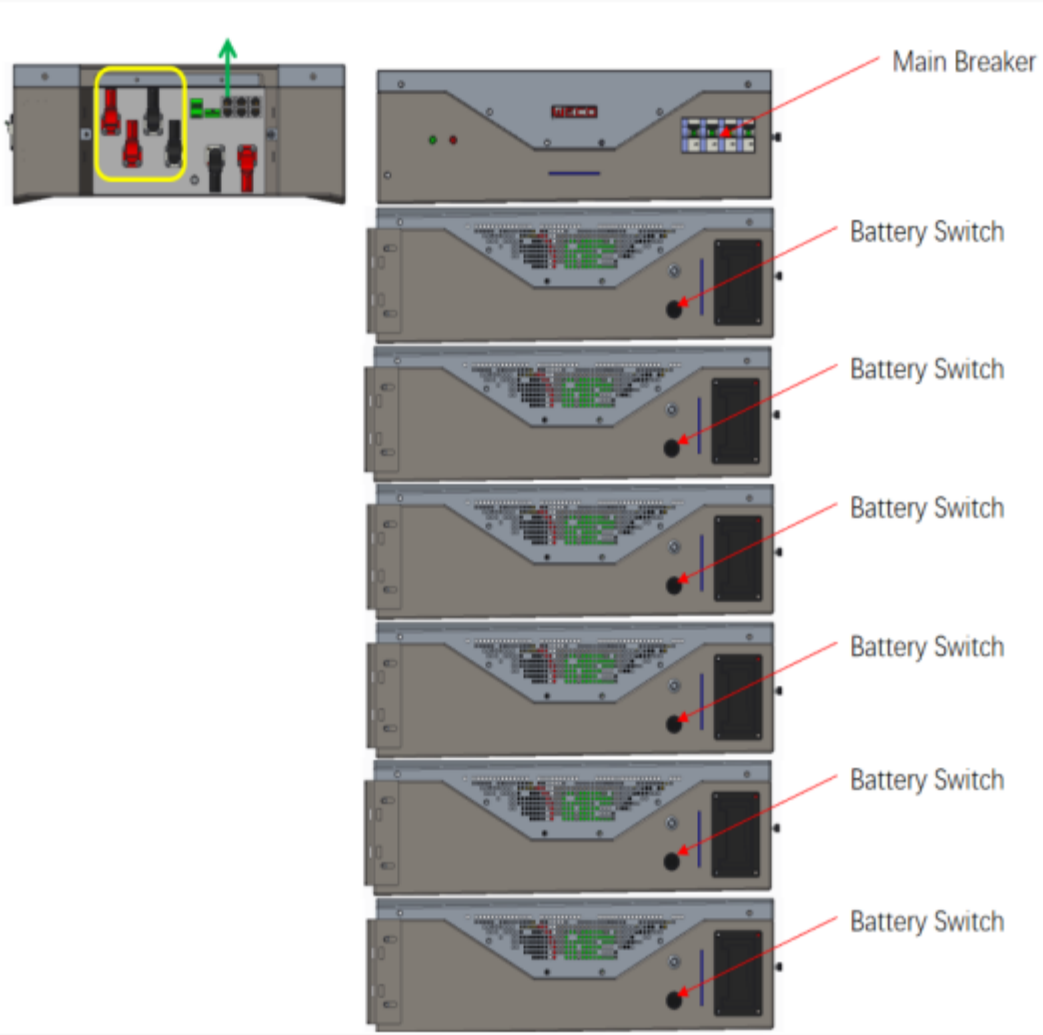
Step 4: Connect the inverter input channels to the HV sockets P+ and P- of the HV box.

Step 5: Set the DIP switch of the HV box as shown right.

Step 6: Connect the RJ45 cable of inverter CAN communication to the CAN2-B port of the HV box.

Step 7: Turn on the boat switch on the side of each battery module.

Step 8: Power up the system by turning on the main breaker of the HV box.



Step1 | Step2 | Overview | System Info | Module Info

WECO

Status Of Charge: ---%

Status: ---

Instant Power: ---kW

Charging Time: ---
Discharging Time: ---
Standby Time: ---

System Voltage: ---
System Current: ---
System Insulation: ---

Modules Connected: ---
Delta Voltage: ---
Delta Temperature: ---

Charging Energy : ---
Discharging Energy: ---
Number of Cycles: ---

Inverter protocol: ---
BMS Version: ---
FW Version: ---

COM Port:
Connect : CONNECT
Status:

Step1 | Step2 | Overview | System Info | Module Info

System SOC:	---
System Voltage:	---
System Current:	---
System Power:	---
System Insulation:	---
Charging Time:	---
Discharging Time:	---
Standby Time:	---

System Status:	---
Modules Connected:	---
Max Cell Voltage:	---
Min Cell Voltage:	---
Delta Voltage:	---
Max Cell Temperature:	---
Min Cell Temperature:	---
Delta Temperature.:	---

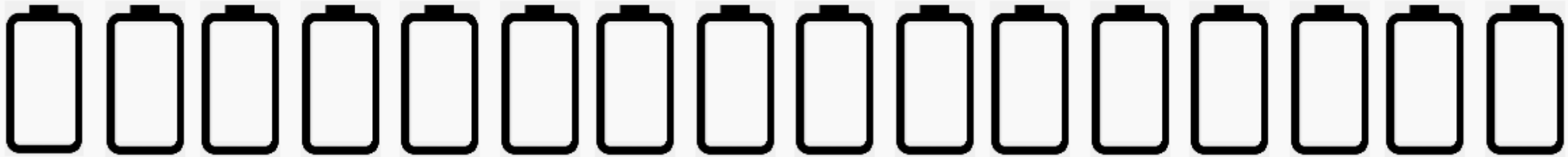
SumVol OV:	
SumVol UV:	
CellVol OV:	
CellVol UV:	
Charge OC:	
Discharge OC:	
Charge OT:	
Charge UT:	
Discharge OT:	
Discharge UT:	
Internal COM:	
External COM:	
Insulation LOW:	
SumVol Err:	
Breaker Interlock:	

	CAN	Link	Status	Vdc	Current	SOC
1#			---	---	---	
2#			---	---	---	
3#			---	---	---	
4#			---	---	---	
5#			---	---	---	
6#			---	---	---	
7#			---	---	---	
8#			---	---	---	
9#			---	---	---	
10#			---	---	---	
11#			---	---	---	
12#			---	---	---	
13#			---	---	---	
14#			---	---	---	
15#			---	---	---	
16#			---	---	---	

Step1 | Step2 | Overview | System Info | Module Info

Cell Voltage

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



Temperature

Temp1:	0	Temp2:	0	Temp3:	0
Temp4:	0				

Voltage/Current

Module Voltage:	0	Module Current:	0
Max Voltage:	0	Min Voltage:	0

Module Select

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

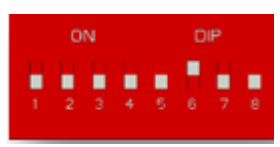
CONNESSIONE DEI MODULI

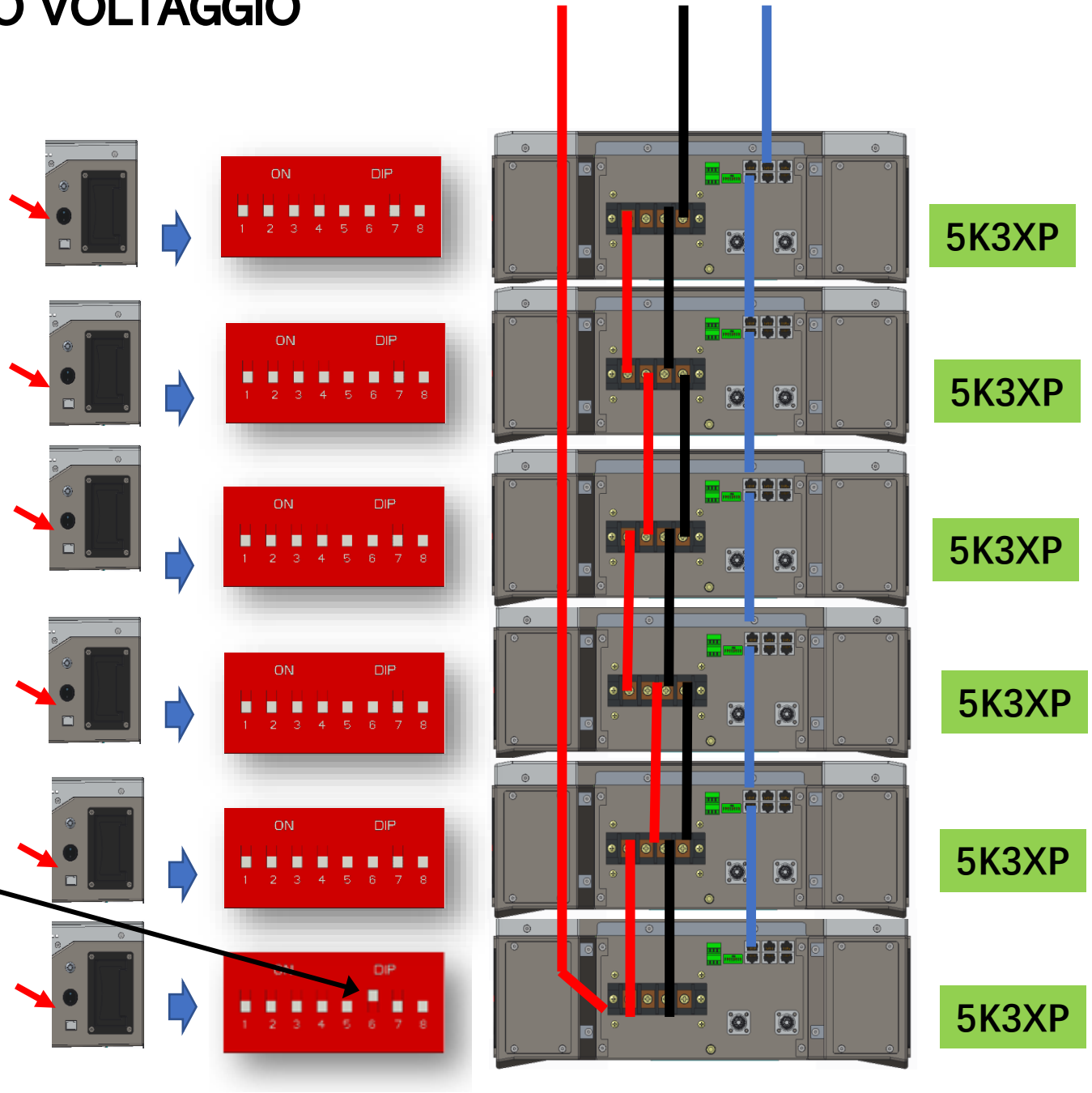
5K3XP BASSO VOLTAGGIO

1. Tutti i DIP Switch IMPOSTATI su OFF (dal master al penultimo)
2. Impostare l'ultimo modulo come 00000100 (terminatore)
3. Collegare tutti i cavi RS 485 dalla porta B del master alla porta A del sub
4. Procedere con RS485 in Daisy Chain fino all'ultimo modulo
5. Collegare la connessione di alimentazione come di consueto
6. Collegare la potenza di uscita all'inverter
7. Accendere l'interruttore principale di ciascun modulo

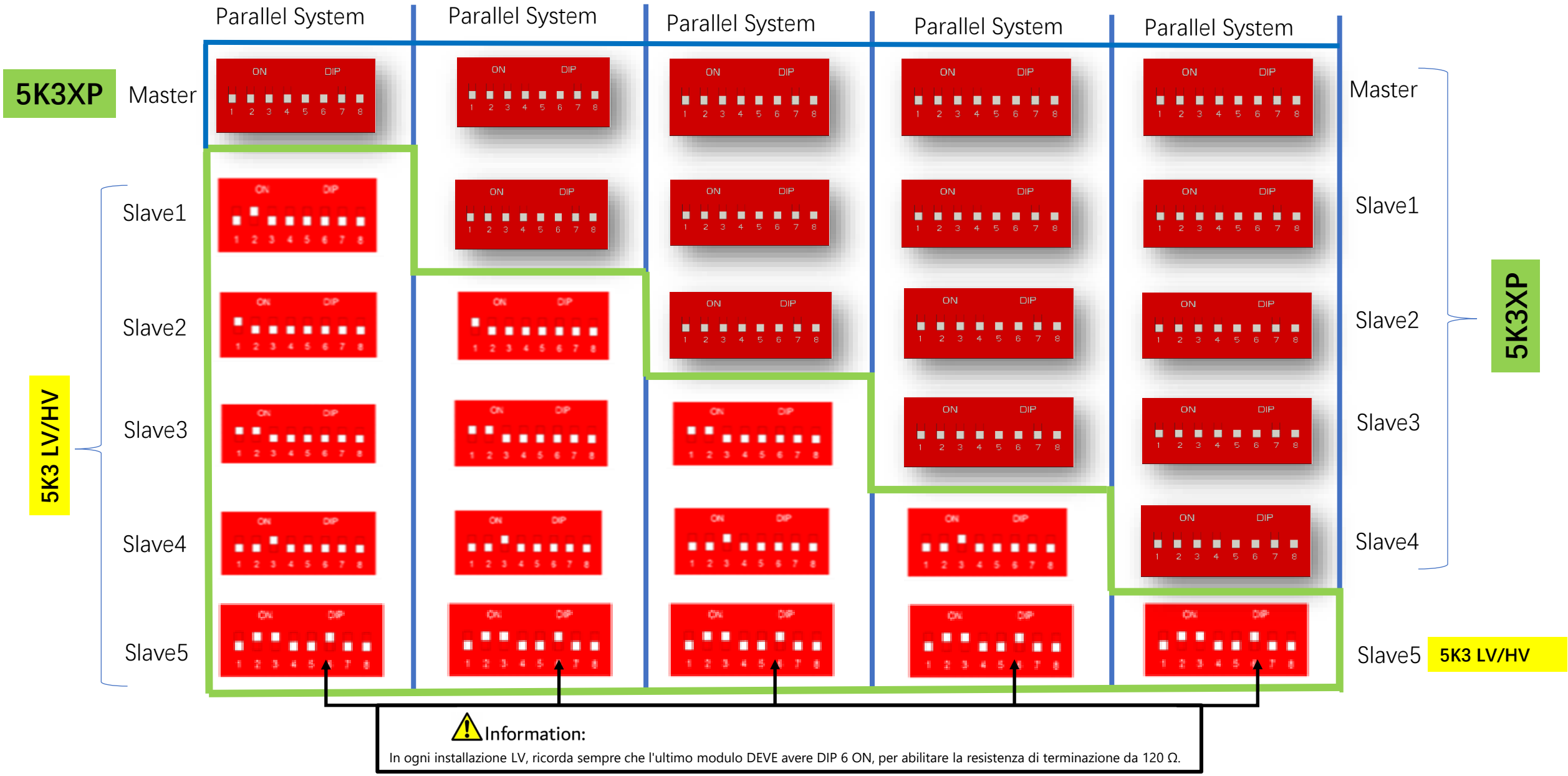
   (situato sul lato sotto la maniglia)
8. Premere il PULSANTE RUN solo del Master
9. Attendere che tutti i sottomoduli si avviino automaticamente.

> ⚠ Information:
>
> In ogni installazione LV, ricorda sempre che l'ultimo modulo DEVE avere DIP 6 ON, per abilitare la resistenza di terminazione da 120Ω.





Cluster LV misto 5K3XP e 5K3 LV/HV (max 6 unità)



Cluster LV misto 5K3XP e 5K3 LV/HV (max 6 unità)

ESPANSIONE DI UN CLUSTER IN LV DI BATTERIE 5K3 LVHV con 5K3XP
ESEMPIO: 3*5K3XP + 3*5K3 LV/HV

MAX 6 MODULI LV
LE 5K3XP (Nuovo Modello) DEVONO FARE SEMPRE DA MASTER E OCCUPARE LE PRIME POSIZIONI DELLA TORRE
LE 5K3 LVHV DEVONO INVECE STARE NELLA PARTE INFERIORE
NON ALTERNARLE LUNGO LA TORRE

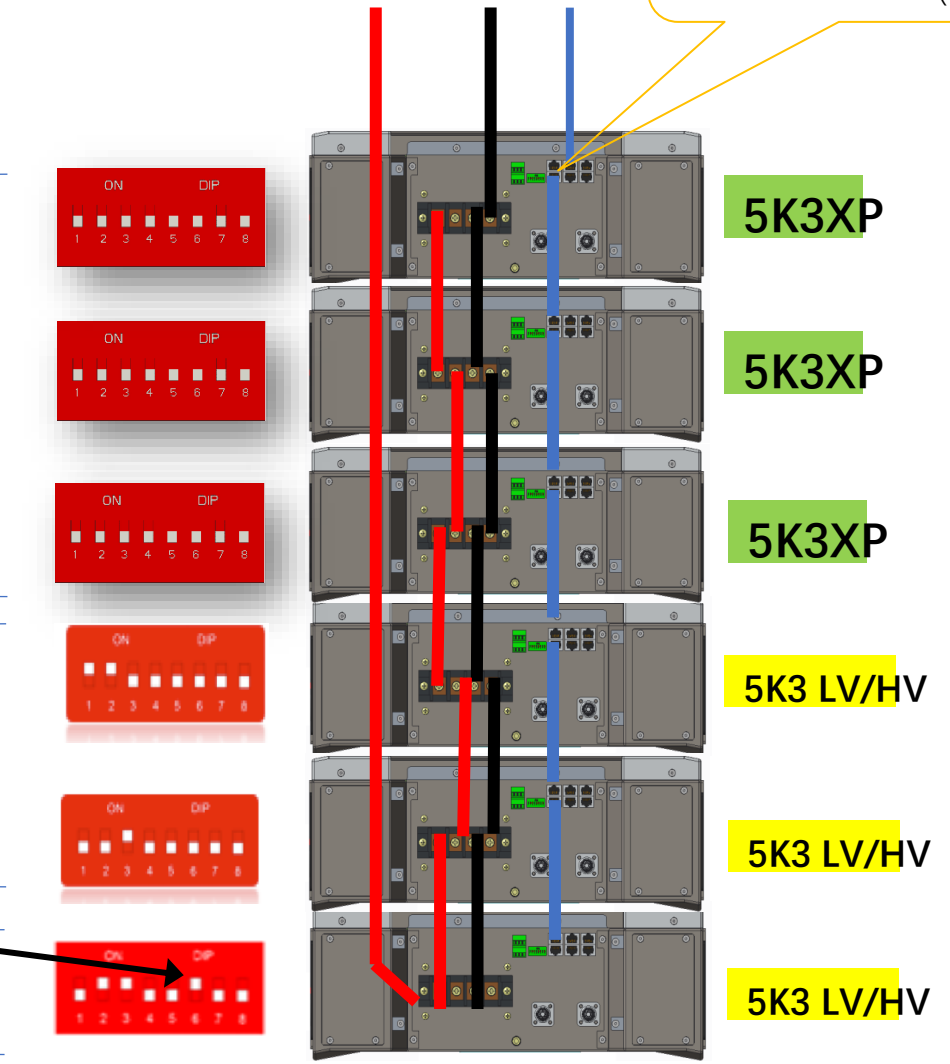
I sistemi misti sono consentiti in caso di espansione di sistemi già esistenti.
Per le nuove installazioni usare sempre tutte batterie dello stesso modello.

TUTTE LE 5K3 DEVONO ESSERE SETTATE 00000 000

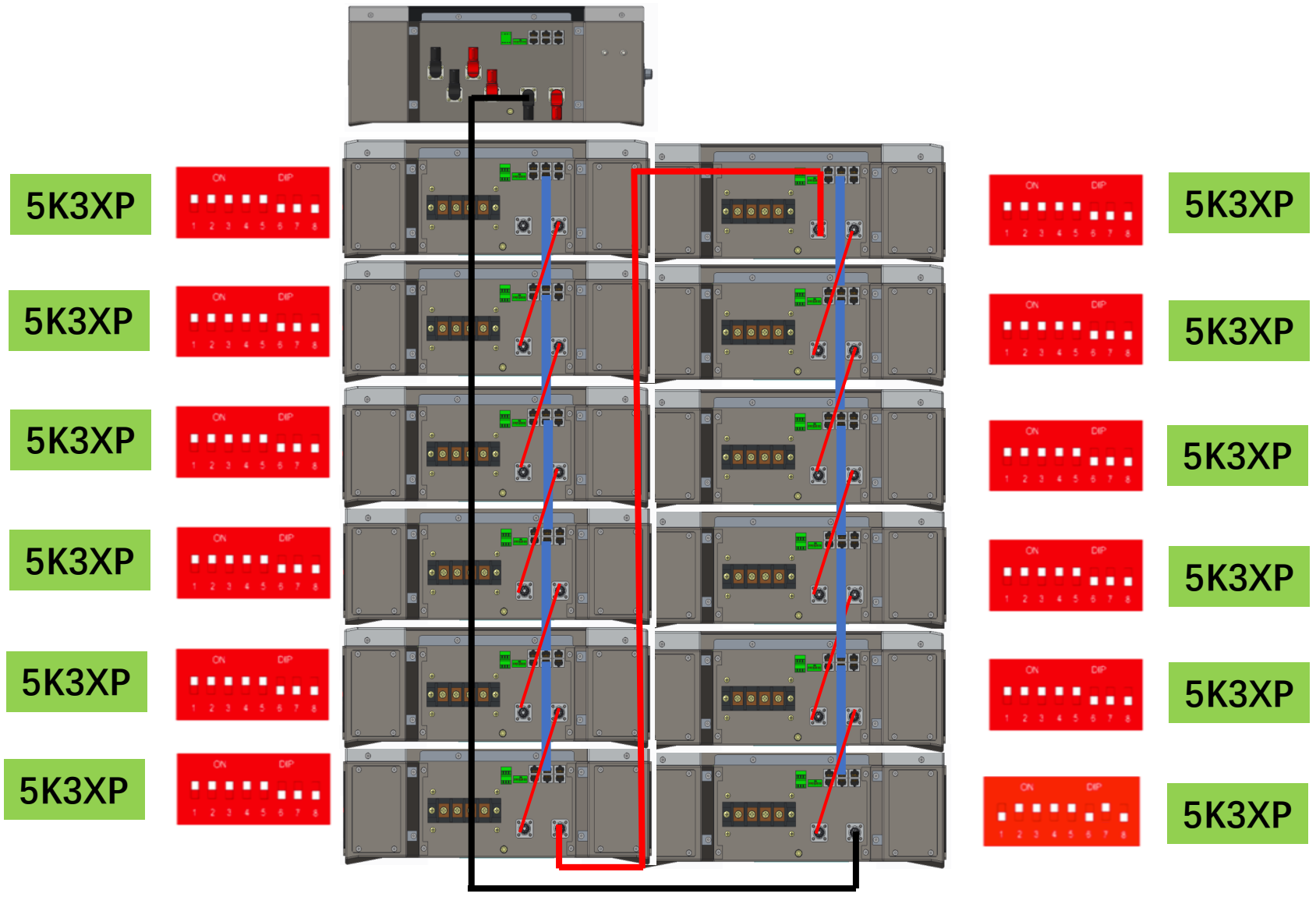
LE 5K3 LVHV DEVONO ESSERE SETTATE IN BASE ALLA LORO POSIZIONE COME DA MANUALE

⚠ Information:
In ogni installazione LV, ricorda sempre che l'ultimo modulo DEVE avere DIP 6 ON, per abilitare la resistenza di terminazione da 120 Ω.

L'ULTIMA BATTERIA DEVE ESSERE UNA LVHV



5K3XP ALTO VOLTAGGIO

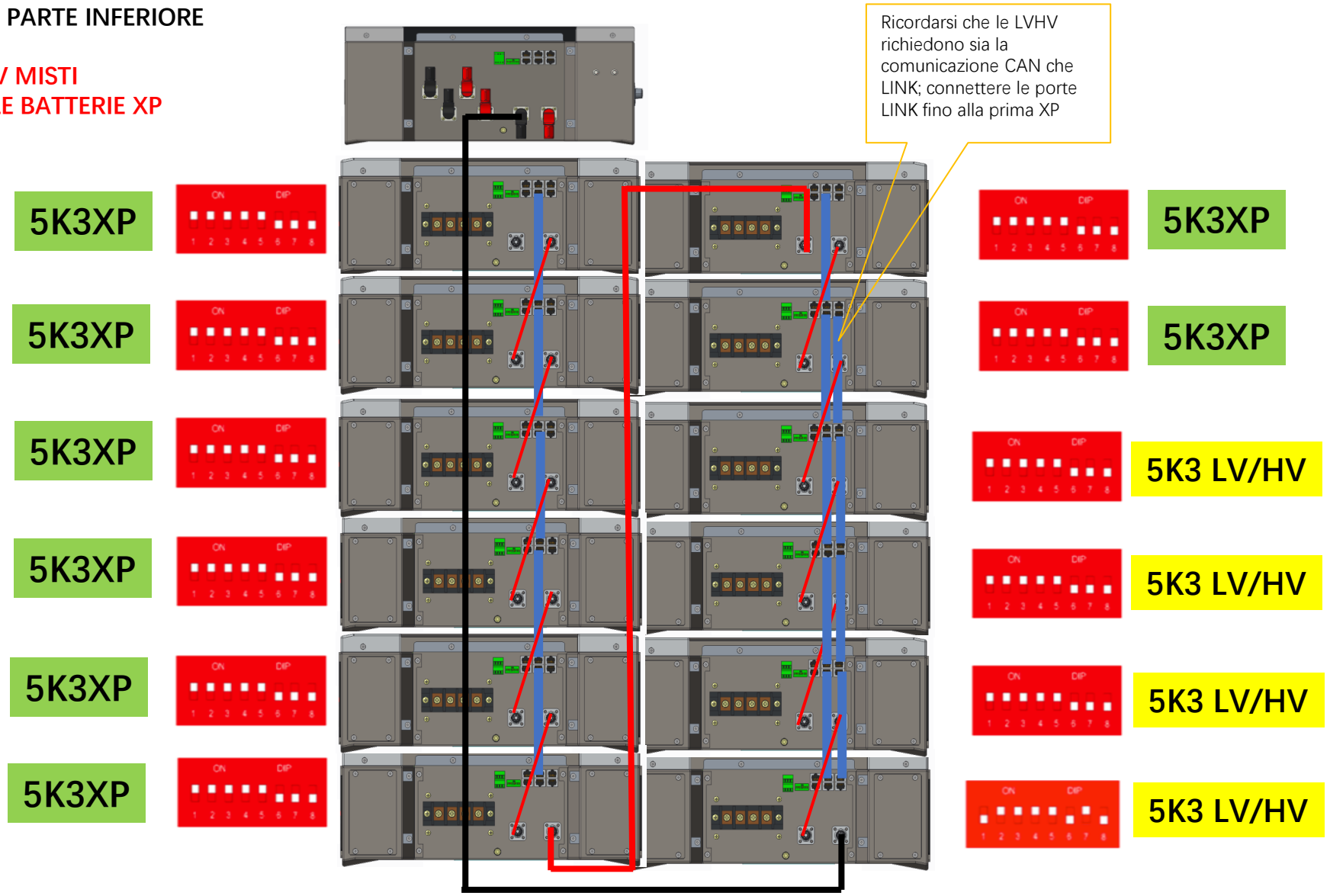


ESPANSIONE DI UN CLUSTER IN HV DI BATTERIE 5K3 LVHV con 5K3XP
ESEMPIO: 8*5K3XP + 4*5K3 LV/HV

MAX 12 MODULI HV
LE 5K3XP (Nuovo Modello) DEVONO FARE SEMPRE DA MASTER E OCCUPARE LE PRIME POSIZIONI DELLA TORRE
LE 5K3 LVHV DEVONO INVECE STARE NELLA PARTE INFERIORE
NON ALTERNARLE LUNGO LA TORRE
USARE SEMPRE L'HV BOX XP NEI SISTEMI HV MISTI
L'HV BOX LVHV NON È COMPATIBILE CON LE BATTERIE XP

I sistemi misti sono consentiti in caso di espansione di sistemi già esistenti.

Per le nuove installazioni usare sempre tutte batterie dello stesso modello.



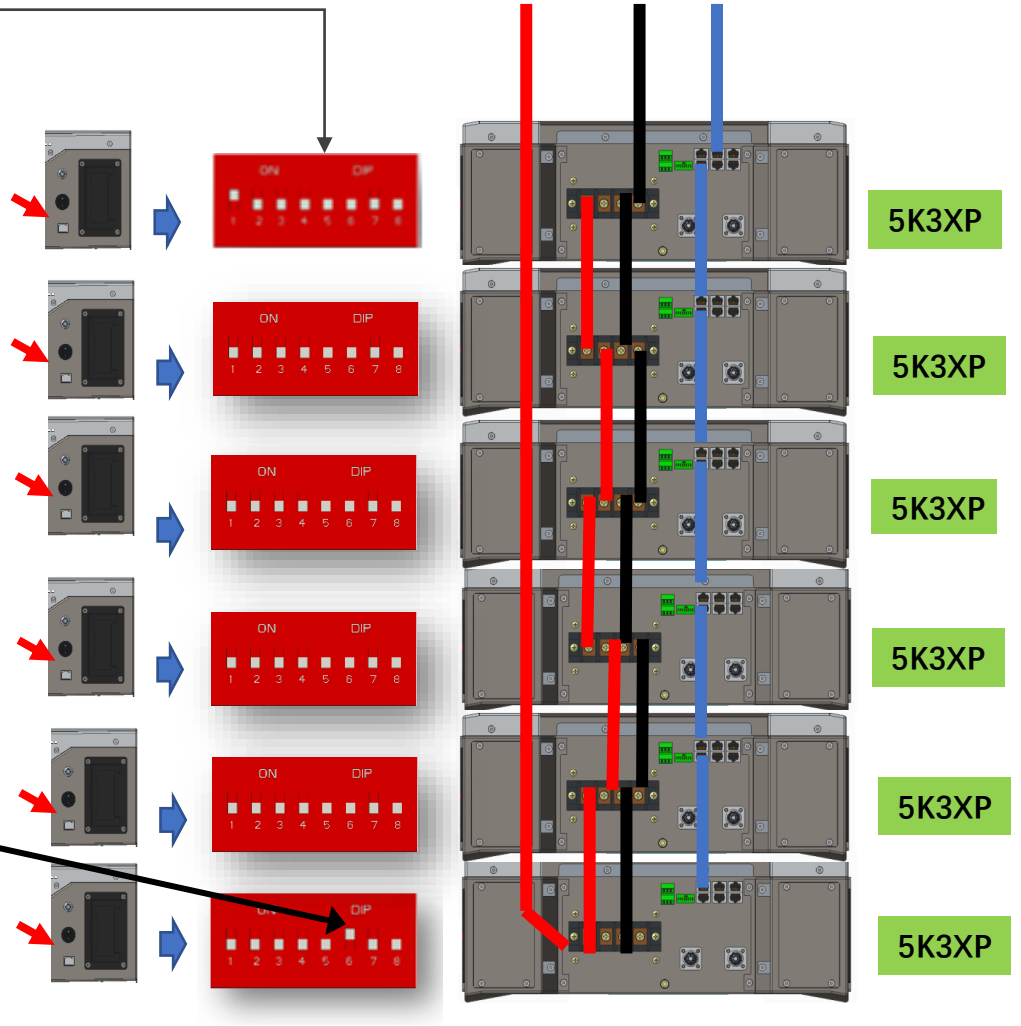
5K3XP LOW VOLTAGE HUB

MASSIMO 7 CLUSTERS E 15 BATTERIE PER CLUSTER

5K3XP SET UP DI UN MULTI CLUSTER LV TRAMITE HUB LV

MAX 7 CLUSTERS E 15 BATTERIE PER CLUSTER

OGNI MASTER DEVE ESSERE SETTATA CON IL SUO CLUSTER ID SPECIFICO PER ESSERE RICONOSCIUTA DALL'HUB LV



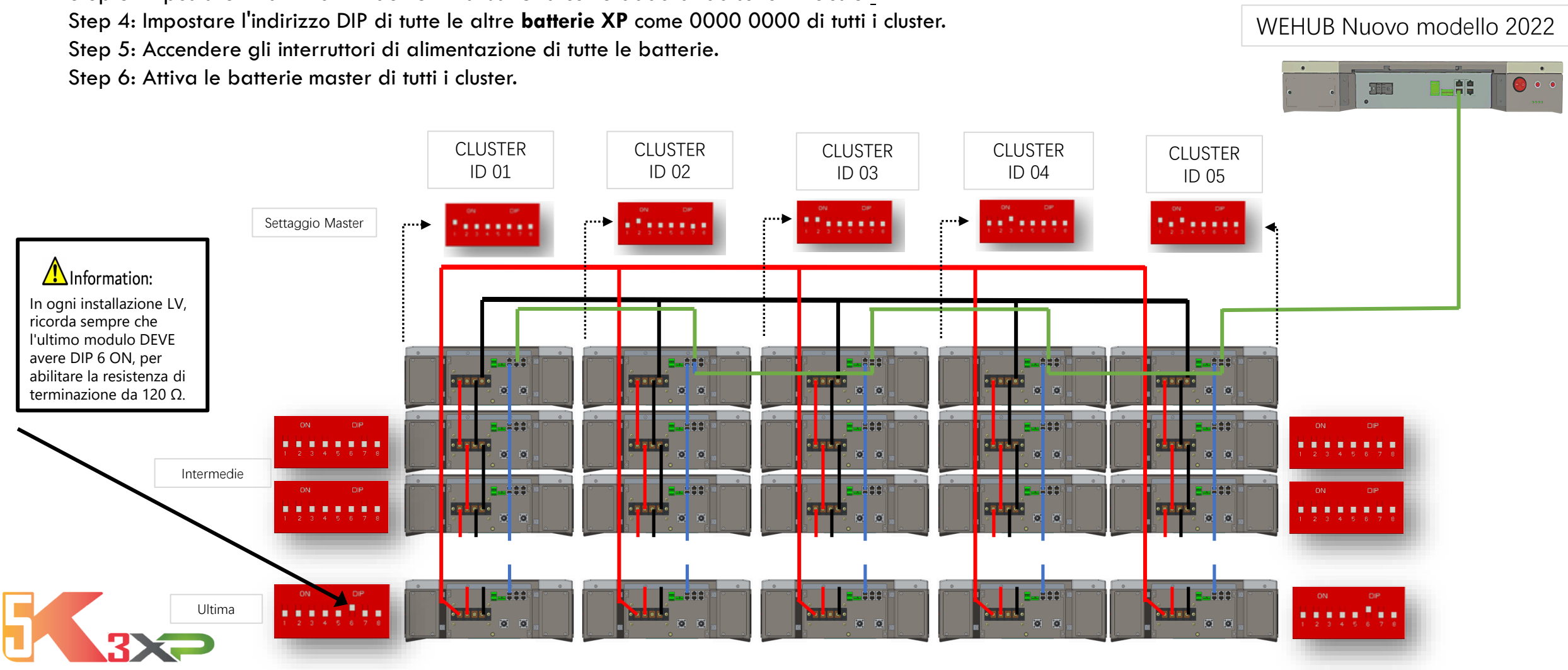
⚠ Information:

In ogni installazione LV, ricorda sempre che l'ultimo modulo DEVE avere DIP 6 ON, per abilitare la resistenza di terminazione da 120 Ω.

5K3XP SET UP DI UN MULTI CLUSTER LV TRAMITE HUB LV

MAX 7 CLUSTERS E 15 BATTERIE PER CLUSTER

Step 1: Impostare i cluster paralleli come al solito, collegare il sistema parallelo con i cavi RS485, collegare i cavi di alimentazione
Step 2: Impostare l'indirizzo del cluster sul **DIP** della batteria master per assegnare l'**ID cluster**
Step 3: Impostare l'indirizzo DIP dell'**ultima batteria** come 0000 0100 su tutti i cluster.
Step 4: Impostare l'indirizzo DIP di tutte le altre **batterie XP** come 0000 0000 di tutti i cluster.
Step 5: Accendere gli interruttori di alimentazione di tutte le batterie.
Step 6: Attiva le batterie master di tutti i cluster.



COMPOSIZIONE DI UN SISTEMA MULTI-CLUSTERS HUB CON MODELLI MISTI 5K3 LV/HV E 5K3-XP

UN CLUSTER MISTO TRA 5K3 LV/HV E 5K3-XP È LIMITATO A SEI BATTERIE

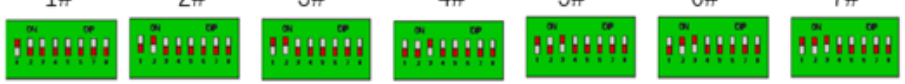
5K3XP SET UP DI UN MULTI CLUSTER LV MISTO TRAMITE HUB LV

Multi cluster misto: MAX 7 CLUSTERS E 6 BATTERIE PER CLUSTER

Comporre il Cluster aggiungendo la nuova 5K3-XP come **master battery sopra la torre esistente composta da moduli 5K3 LVHV**
In un sistema multi-cluster misto ogni batteria master di ciascun cluster **deve essere una 5K3XP**
Imposta i DIP SWITCH della master del primo Cluster con ID 01
(Tutte le master dei Cluster successivi devono essere impostate con ID consecutivi)

LE MASTER 5K3XP DEVONO ESSERE SETTATE SECONDO IL CLUSTER ID

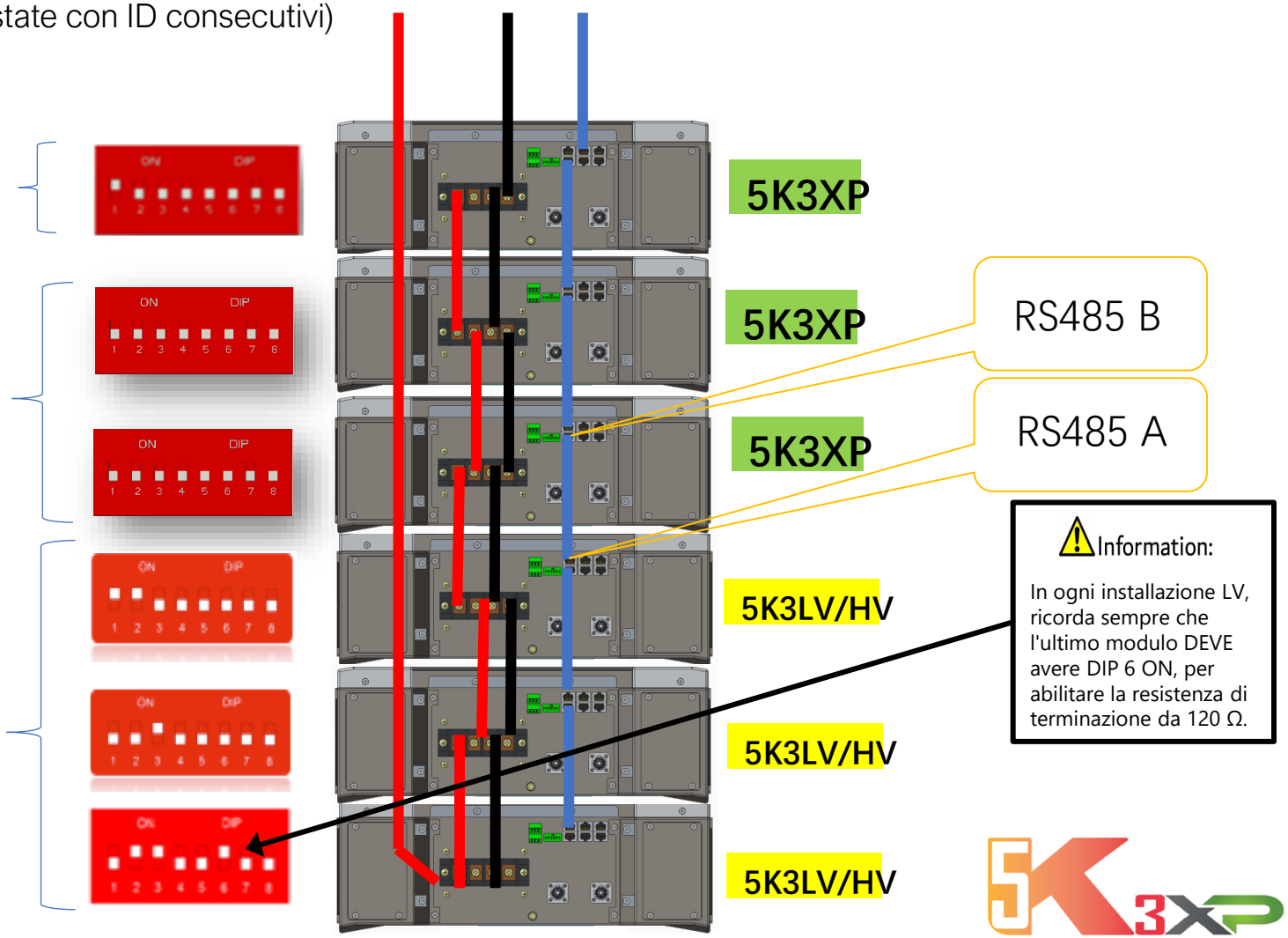
CLUSTER : 1# 2# 3# 4# 5# 6# 7#



LE 5K3XP INTERMEDIE VANNO SETTATE: 0000 0000

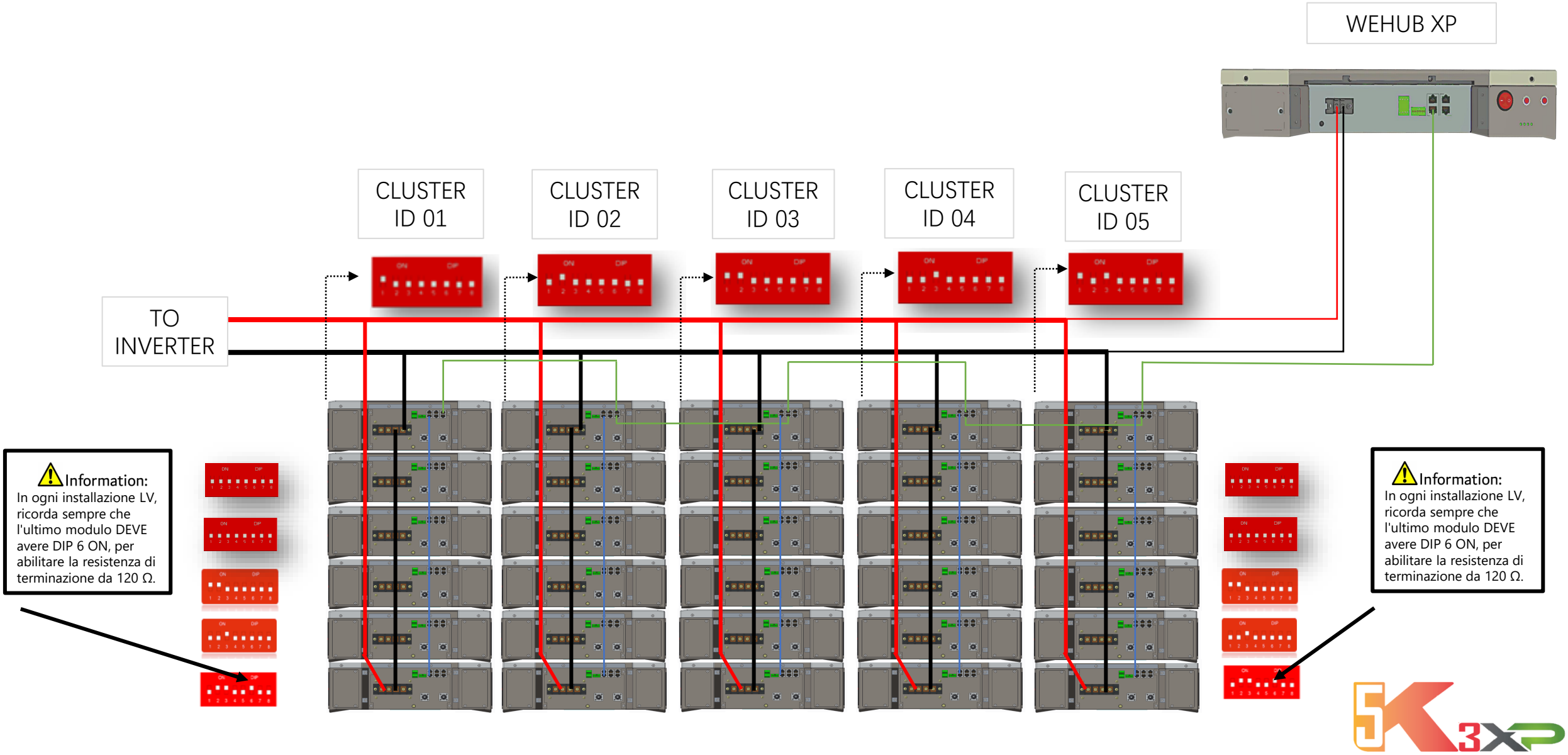
LE 5K3 LV/HV VANNO SETTATE IN BASE ALLA LORO POSIZIONE LUNGO LA TORRE COME DA MANUALE

2# 3# 4# 5# 6#



5K3XP SET UP DI UN MULTI CLUSTER LV MISTO TRAMITE HUB LV

Multi cluster misto: MAX 7 CLUSTERS E 6 BATTERIE PER CLUSTER



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