

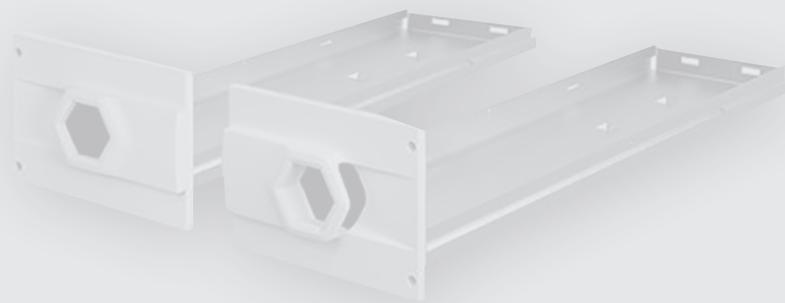
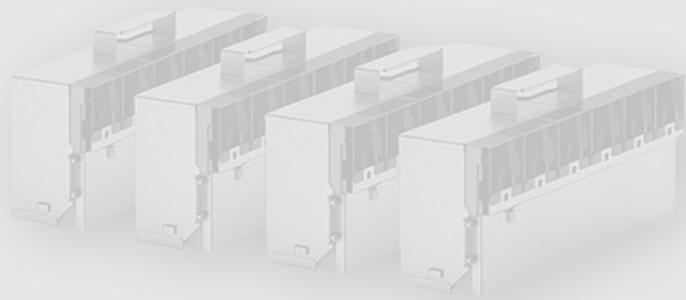


## KEOR MOD Battery Drawers – Battery Blocks

EN

ENGLISH

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## 1. Introduction

### **INDICATION**

The instructions in this manual are intended for a **SKILLED TECHNICIAN** (paragraph 2.2)

### **1.1 Purpose of the manual**

The purpose of this manual is to provide the skilled technician with instructions for safely installing the battery drawers and battery blocks on the Keor MOD UPS.

The reading of this manual is essential but does not substitute the skill of technical personnel who must have received adequate preliminary training.

The original text of this publication, drafted in English, is the only reference for the resolution of disputes of interpretation linked to translations into other languages.

### **1.2 Symbols in the manual**

Some operations are shown in graphic symbols that draw the attention of the reader to the danger or the importance they imply:



This indication shows a danger entailing a high degree of risk that, if not avoided, will lead to death or serious injury or considerable damage to the equipment and things around it.



This indication shows a danger entailing a medium degree of risk that, if not avoided, could lead to death or serious injury or considerable damage to the equipment and the things around it.



This indication shows a danger entailing a low level of risk that, if not avoided, could lead to minor or moderate injury or material damage to the equipment and the things around it.

### **INDICATION**

This symbol indicates important information which should be read carefully.

### **1.3 Where and how to keep the manual**

This manual must be kept in a safe, dry place and must always be available for consultation exclusively by the skilled technician.

It is recommended to make a copy of it and file it away.

### **INDICATION**

The manual provided with the equipment is an integral part of it and must therefore be kept for its entire lifetime. In case of need (for example in case of damage that even partially compromises its consultation) the skilled technician is required to get a new copy from the Manufacturer, quoting the publication code on the cover.

#### **1.4 Update of the manual**

The manual reflects the state of the art when the equipment was put onto the market. The manual cannot be considered inadequate when new standards come into force or modifications are made to the equipment.

Any addition to the manual that the Manufacturer considers appropriate to send to the users, must be kept together with the manual of which they will become an integral part.

The version of the manual updated to its latest release is available on the Internet at <http://www.ups.legrand.com>

#### **1.5 Manufacturer's liability and guarantee**

The Manufacturer declines all indirect or direct responsibility arising from:

- assembly and cabling made by personnel not fully qualified according to national standards to work on equipment presenting electrical hazards;
- assembly and cabling made without using safety equipment and tools required by national safety standards;
- failure to observe the installation instructions and use of the equipment which differs from the specifications in the manuals;
- modifications made to the equipment, software, functioning logic unless they have been authorized by the Manufacturer in writing;
- repairs that have not been authorized by the LEGRAND Technical Support Service;
- damage caused intentionally, through negligence, by acts of God, natural phenomena, fire or liquid infiltration.

The transfer of the equipment to others also requires to hand over all the manuals. Failure to do it will automatically nullify any right of the buyer, including the terms of the guarantee where applicable.

If the equipment is sold to a third party in a country where a different language is spoken, the original owner shall be responsible for providing a faithful translation of this manual in the language of the country where the equipment will be used.

#### **1.6 Copyright**

The information contained in this manual cannot be disclosed to any third party. Any partial or total duplication of the manual by photocopying or other systems, including electronic scanning, which is not authorized in writing by the Manufacturer, violates copyright conditions and may lead to prosecution.

LEGRAND reserves the copyright of this publication and prohibits its reproduction wholly or in part without previous written authorization.

## 2. Safety regulations



**Before carrying out any operation, it is necessary to read the entire manual carefully, especially this chapter. Consult it repeatedly during installation and maintenance by a skilled technician.**

### 2.1 General notes

The equipment has been made for the applications given in the manual. It may not be used for purposes other than those for which it has been designed, or differently from those specified in this manual.

The various operations must be carried out according to the criteria and the chronology described in this manual.

### 2.2 Definition of “Skilled Technician”

The figure that will carry out the installation is called “Skilled Technician”.

This definition refers to people who have specific technical qualification which enables them to operate according to safety standards in relation to the dangers linked to the presence of electric current.

They are aware of the method of installing, assembling, repairing and using the equipment safely.

The Skilled Technician is qualified according to national safety standards to work under dangerous electrical voltage and uses the personal protective equipment required by national safety standards for all the operations indicated in this manual (see the examples listed in paragraph 2.3).

### 2.3 Personal Protective Equipment



The installation of batteries in a UPS poses a considerable risk of electric shocks and a high short circuit current. During installation, use and maintenance operations, the equipment mentioned in this section must be used.

People responsible for operating this equipment and/or passing close to it must not wear garments with flowing sleeves, nor may laces, belts, bracelets or other metal pieces that might cause a danger.

The following list sum up the minimum Personal Protective Equipment to wear always. Additional requirements may be needed according to national safety standards.



Anti-accident and non-sparking shoes with rubber sole and reinforced toe



Protective gloves for handling operations



Isolated rubber gloves for operations of connection and work under hazardous voltage



Protective garments for electrical work



Protective face and head shield



Isolated tools

### INDICATION

The skilled technician must work on electrical insulated carpet and he must not wear any kind of metal objects like watches, bracelets, etc.

## 2.4 General warnings

### **WARNING**

A battery can present a risk of electrical shock and burns by high short-circuit current. Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces. The following precautions should be observed when working on batteries:

- a) remove watches, rings or other metal objects.
- b) use tools with insulated handles.
- c) wear rubber gloves and boots.
- d) do not lay tools or metal parts on top of batteries.
- e) disconnect the charging source prior to connecting or disconnecting battery terminals.
- f) determine if battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).
- g) never leave live cable terminals without an insulated protection.
- h) When replacing batteries, replace with the same type and number of batteries or battery packs. There is the risk of explosion if batteries are replaced by an incorrect type.

Do not dispose of batteries in a fire. The batteries may explode.

Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic. The batteries installed inside the cabinet must be disposed of correctly. For the disposal requirements refer to local laws and relevant standards.

### **CAUTION**

To prevent damage or safety hazard, keep the batteries and the UPS cabinet away from flames and any other device that may cause sparks.

### **INDICATION**

If any visible damage is found on the product during the unpacking operation, do not install the batteries but repack the units and return them to your reseller or distributor.

### **INDICATION**

Batteries tend to discharge if they are stored and not connected to the UPS. They should be recharged every 2-3 months if unused. During normal operation, the batteries will be kept charged.

### **INDICATION**

Operating temperatures above the recommended range will result in decreased battery life and performance and will reduce or void the battery warranty.

### 3. Installation



**DANGER**

All installation operations must be carried out exclusively by a **SKILLED TECHNICIAN** (paragraph 2.2).



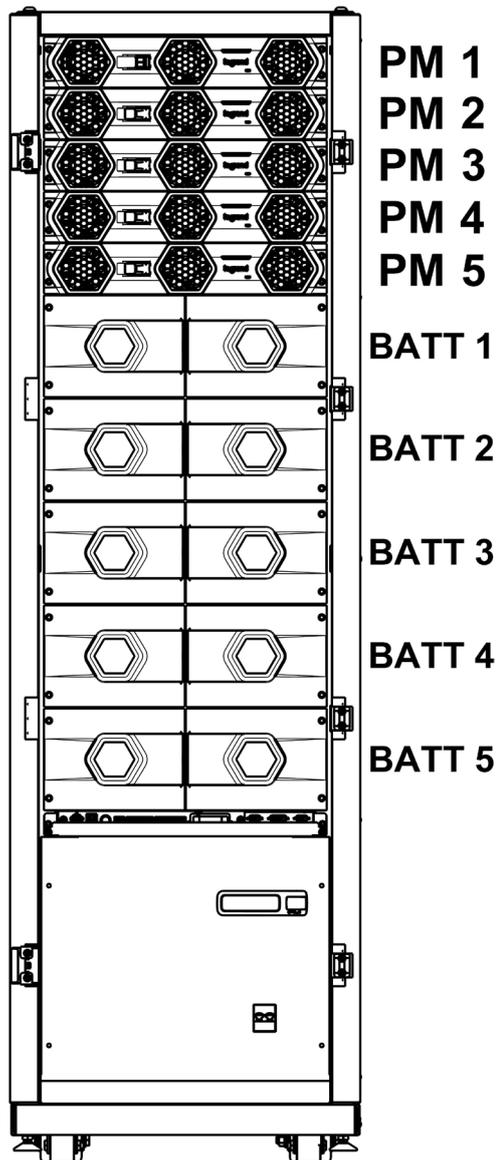
**WARNING**

The installation procedure below explains how to install the battery drawers and battery blocks if the UPS Keor MOD is completely turned OFF and disconnected from all sources of supply, including all battery drawers and external battery cabinets.

In case of replacements of battery drawers with the UPS turned ON, follow strictly the instructions outlined in the UPS installation manual.

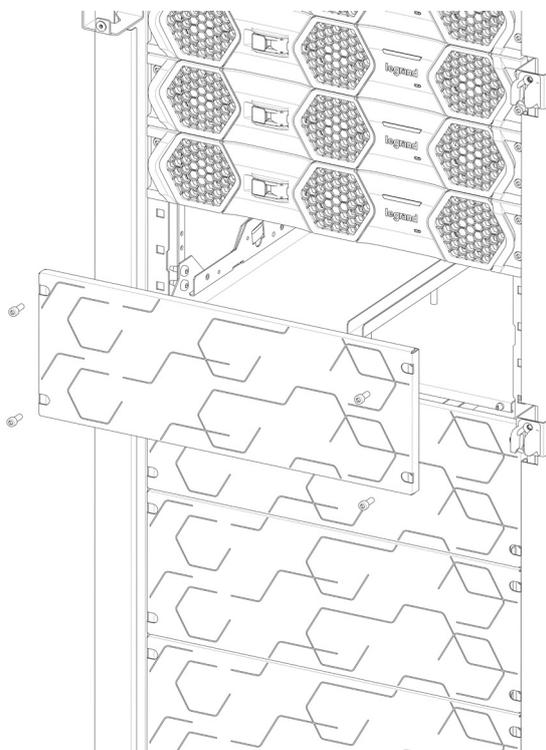
The cabinet for the Keor MOD 125 allows to have from two to ten internal battery drawers. Each battery string is made up of two drawers therefore it is necessary to install them two by two.

The battery drawers have a specific order in the cabinet that must be kept especially if the UPS has to work in a configuration with separate batteries (not in common).

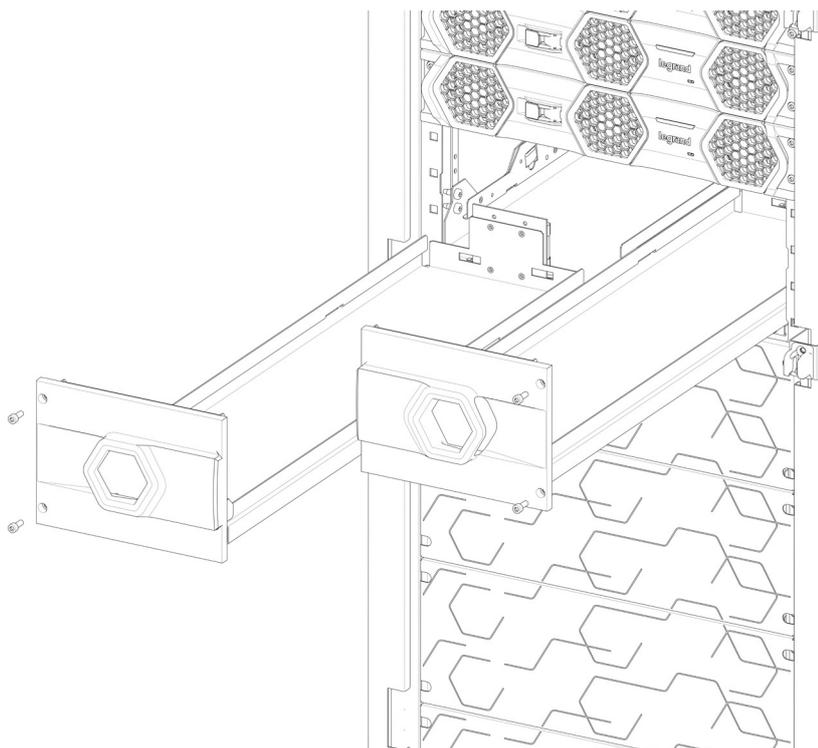


## KEOR MOD Battery Drawers – Battery Blocks

Starting from the top of the cabinet, unscrew the four screws that fix the slot cover where the battery drawers must be installed and save them.

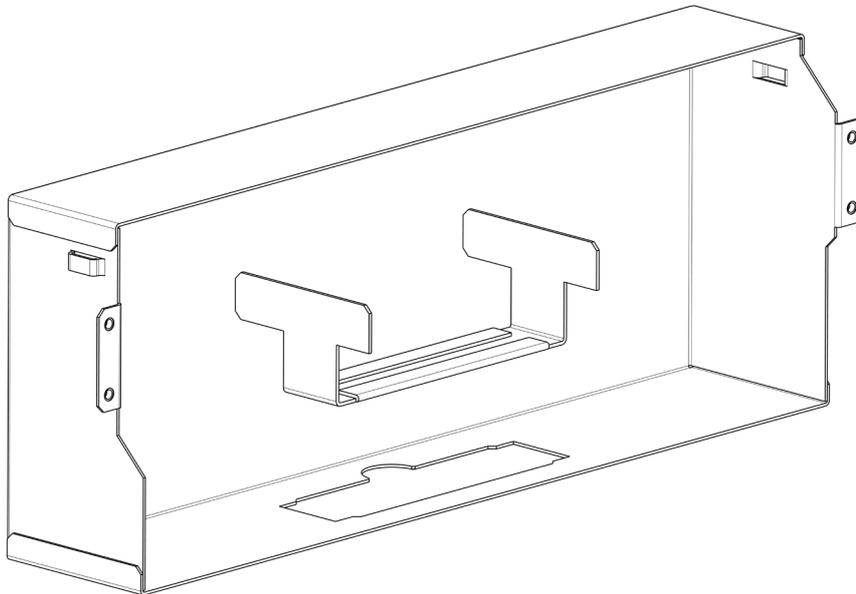


Insert the empty battery drawers in the free slots and push them till you hear a 'click'.  
The battery blocks must be added to the drawers only when these are inserted in the cabinet.

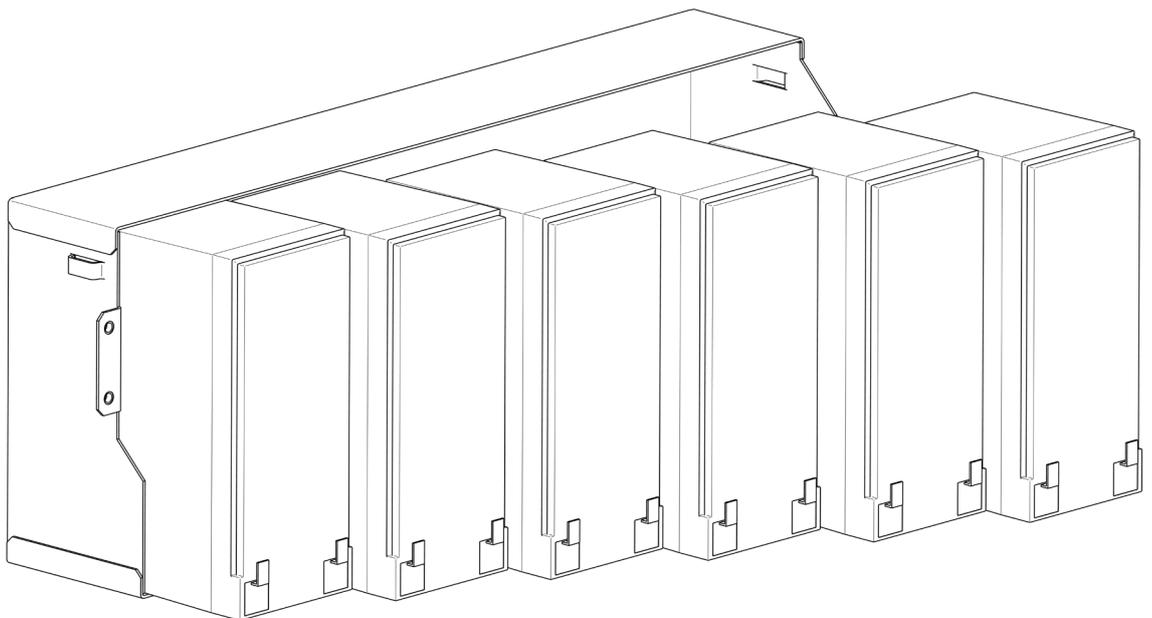


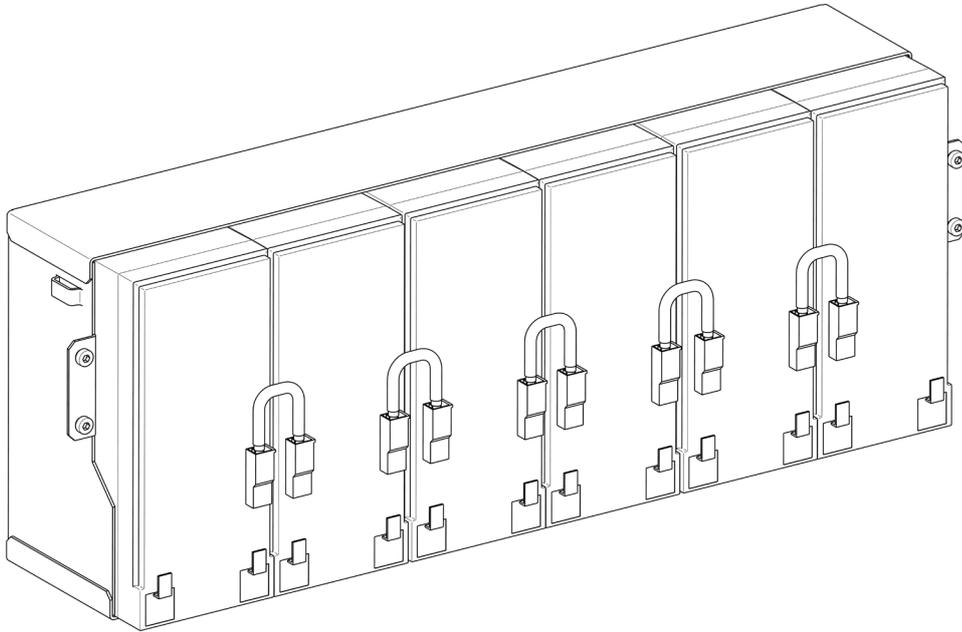
### 3. Installation

In case of empty battery blocks, start inserting the handle in the block.

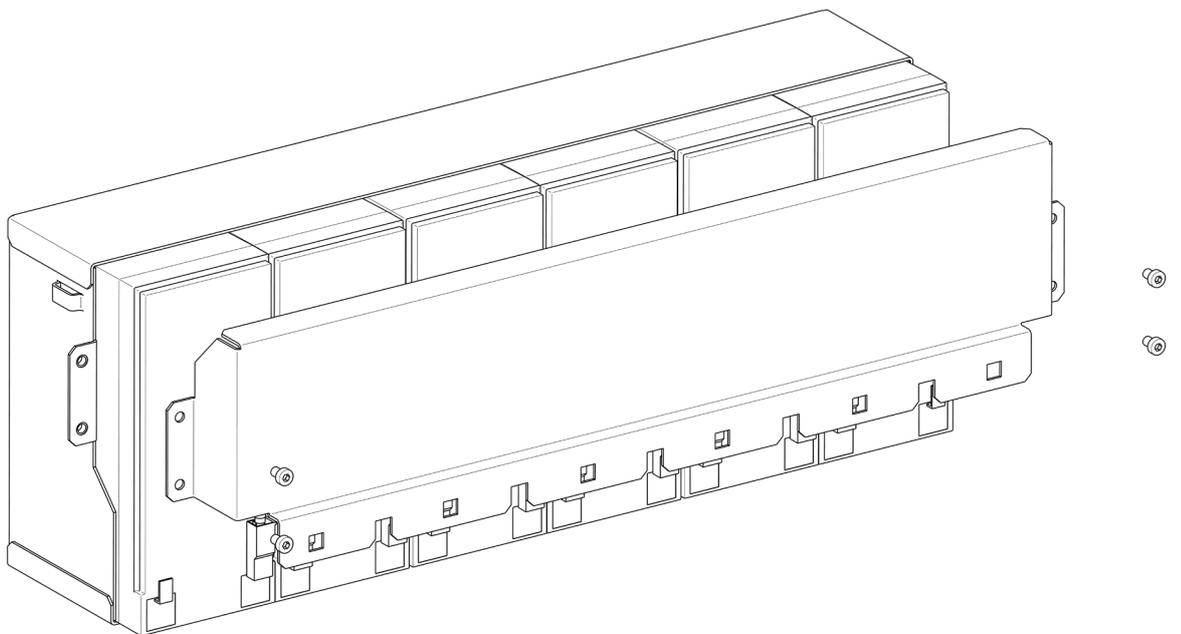


Insert the batteries in the block and connect them in series using the cables provided and respecting the polarity (connect a positive terminal of one battery to a negative terminal of another battery).





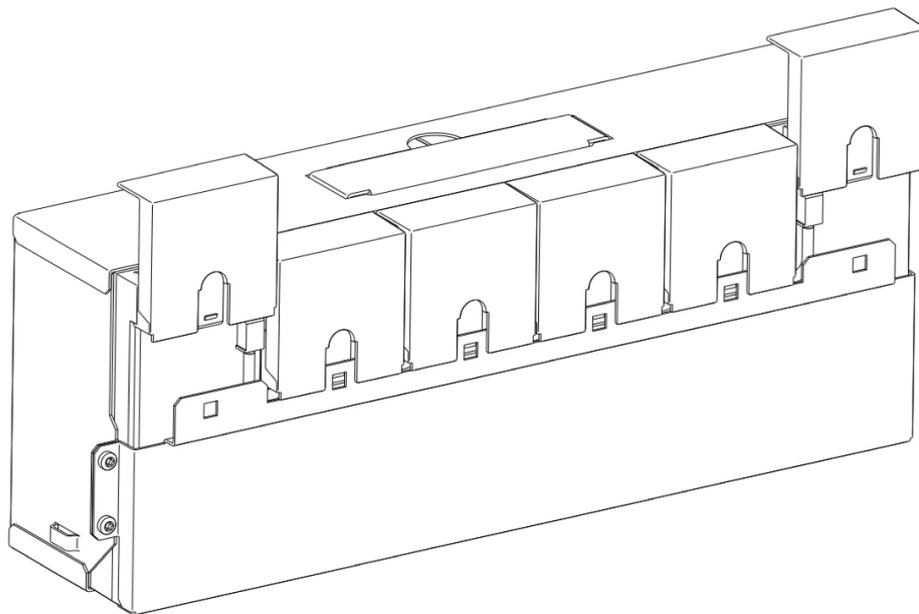
Keep the batteries firm to the block by fixing a metal bar with the four screws provided.



### 3. Installation

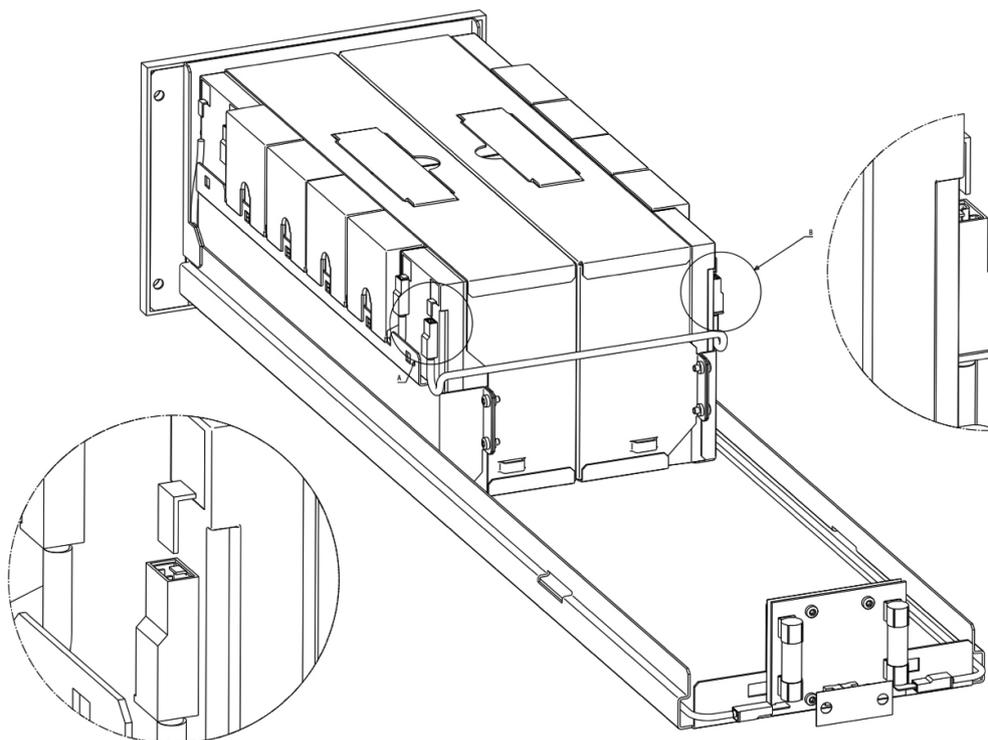
Insert the terminal covers on the four central batteries of the block but not on those at the extremes. Prepare the remaining three battery blocks in the same way.

In case of battery blocks already filled, remove the terminal covers of the batteries at the extremes.



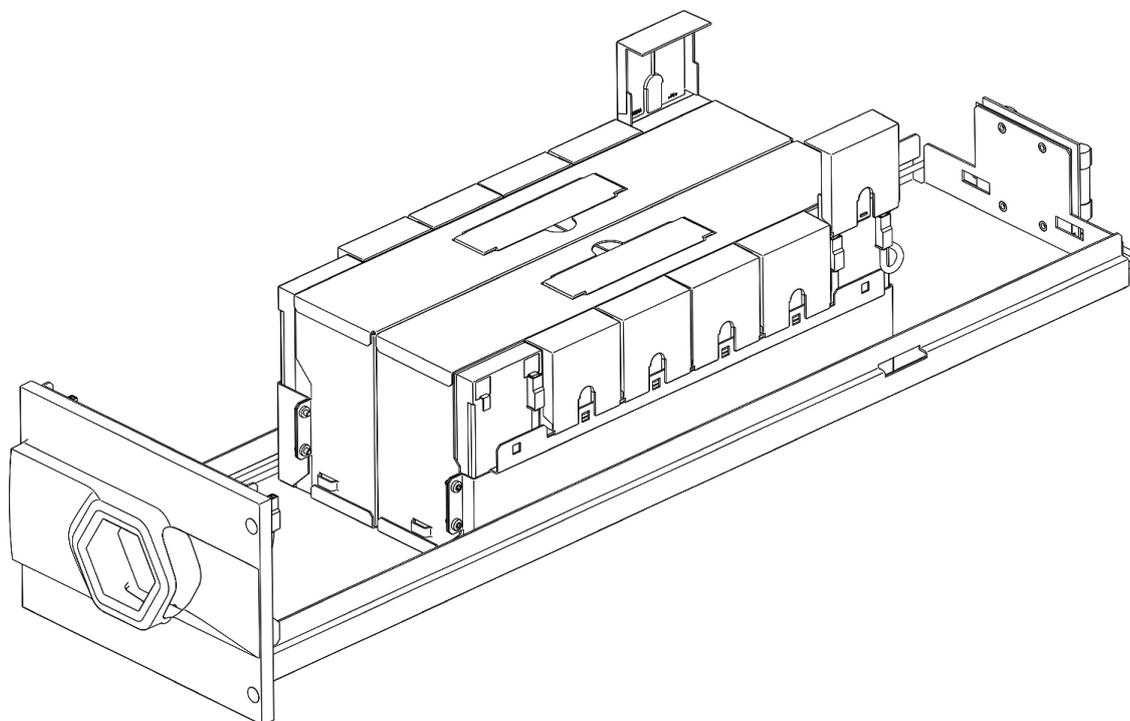
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Add two battery blocks on a drawer and connect in series the two blocks using the cable provided and respecting the polarity (connect a positive terminal to a negative terminal).

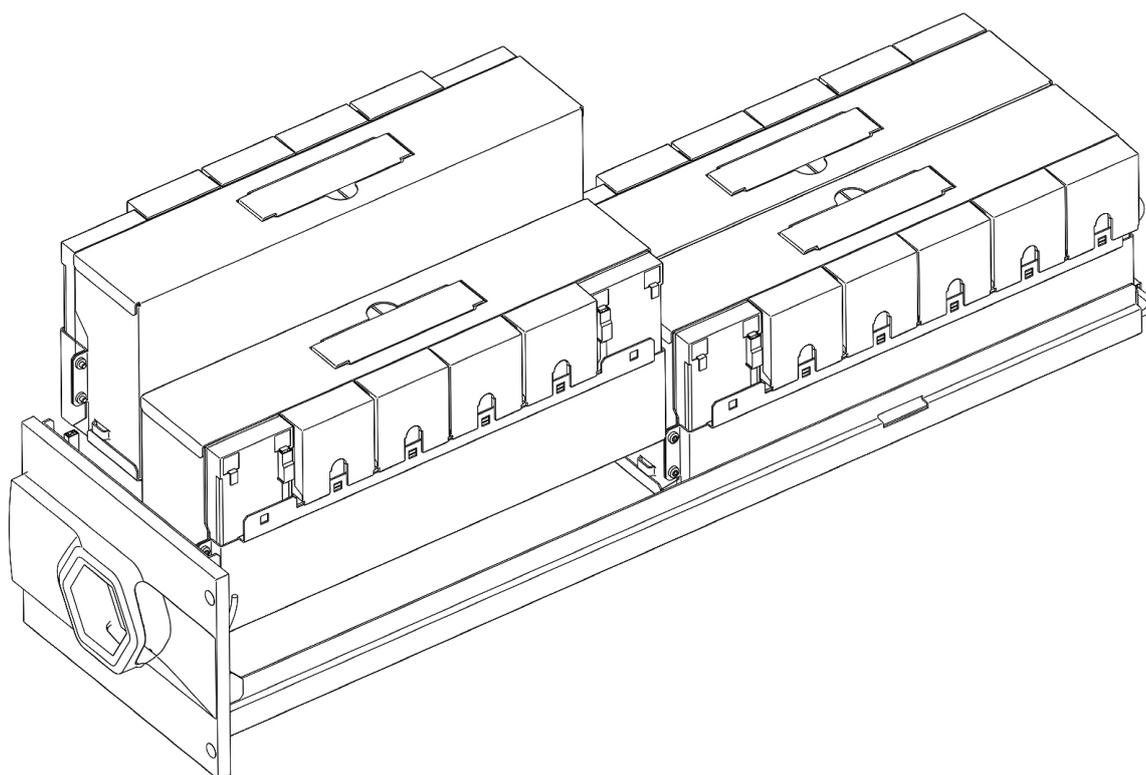


## KEOR MOD Battery Drawers – Battery Blocks

Once the connection is done, insert the terminal covers on the two batteries and push the blocks at the bottom of the drawer.

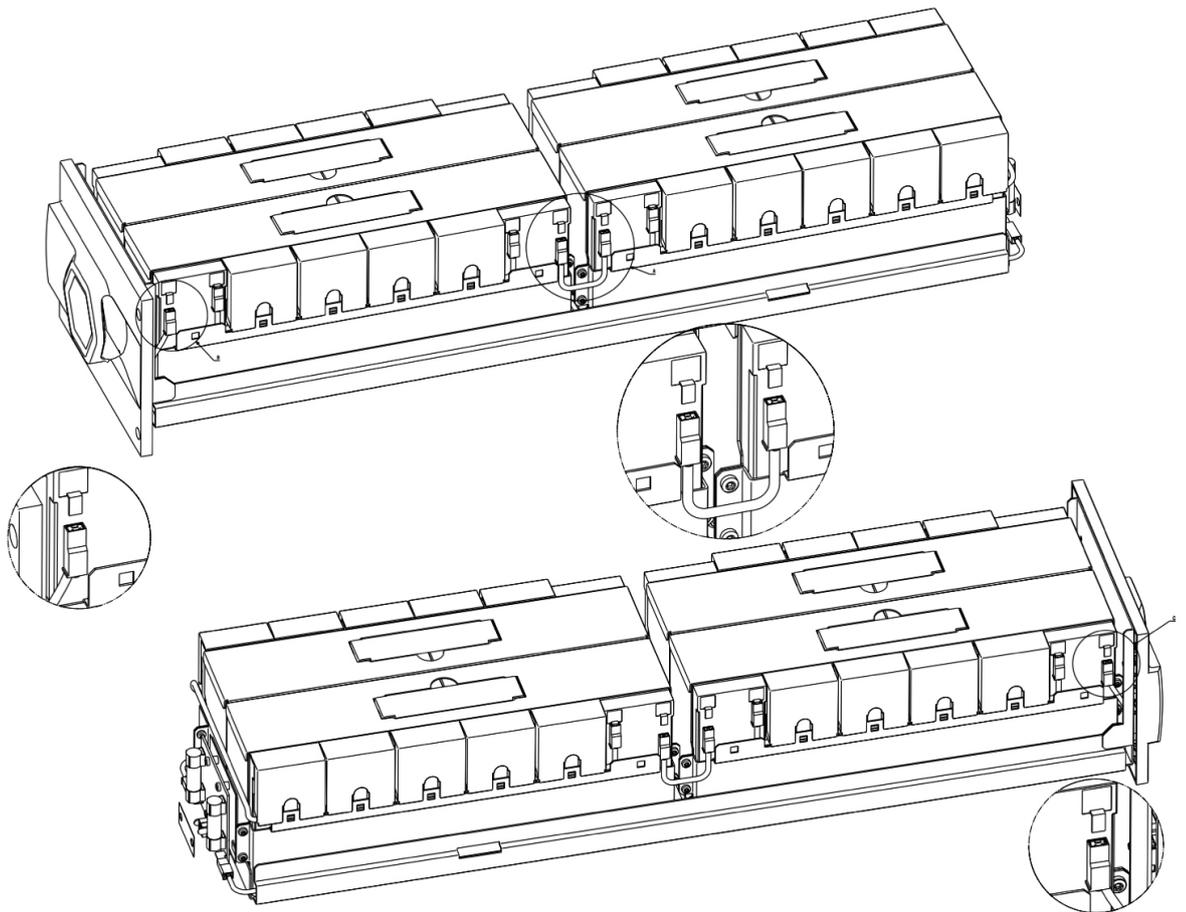


Add other two battery blocks on the drawer.



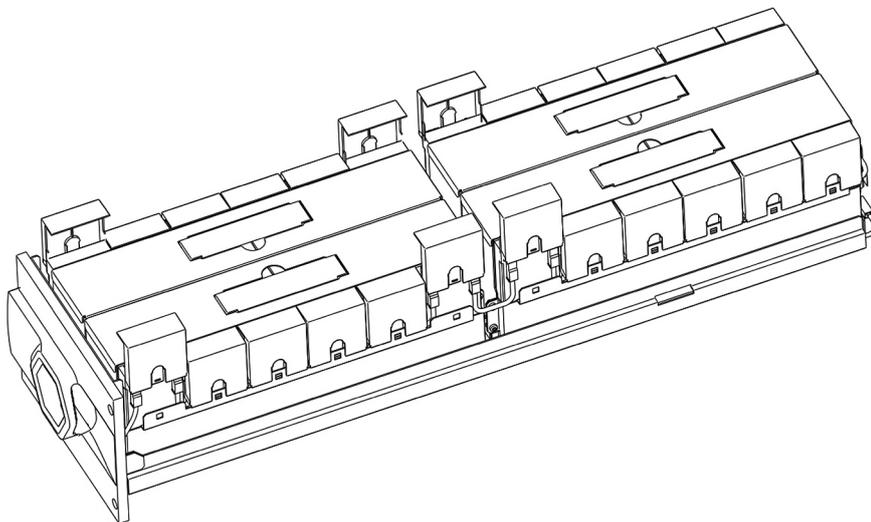
### 3. Installation

Connect in series the two new blocks to the ones already in the drawer using the cable provided and respecting the polarity (connect a positive terminal to a negative terminal).  
Connect the free terminals of the two batteries located close to the handle of the drawer to the cables that go to the back of the drawer. Check the correct polarity of the whole cabling.



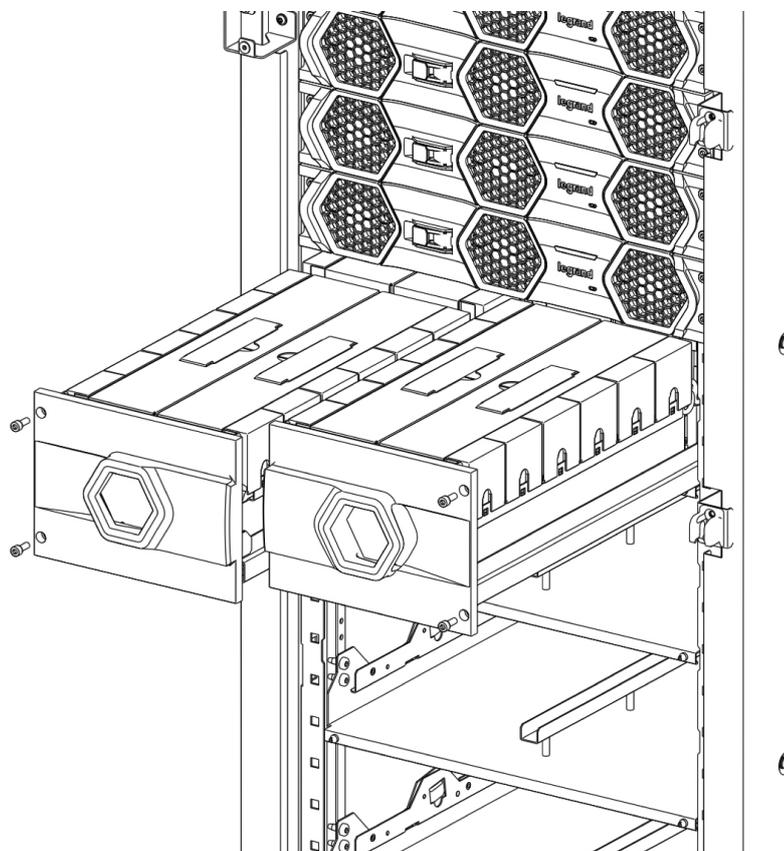
## KEOR MOD Battery Drawers – Battery Blocks

Insert the remaining terminal covers on the batteries.



Fill the second drawer in the same way.

After the two drawers are ready, push them inside the UPS cabinet till they are abut and fix them with the four screws that were previously saved.



## 4. Warehousing and dismantling



All storage and dismantling operations must be carried out only by a **SKILLED TECHNICIAN** (paragraph 2.2). The instructions in this chapter are to be considered indicative: in every country there are different regulations regarding the disposal of electronic or hazardous waste such as batteries. It is necessary to strictly adhere to the standards in force in the country where the equipment is used.  
**Do not throw any component of the equipment in the ordinary rubbish.**

### 4.1 Warehousing

Batteries must be stored in an environment with a room temperature between 0°C (+32°F) and +50°C (+122°F) and humidity less than 90% (not condensing).

The batteries installed inside the battery packs are lead-acid sealed and do not require maintenance (VRLA). The batteries should be charged for 12 hours every 3 months by connecting the battery drawers to the UPS. Repeat this procedure every two months if the storage ambient temperature is above +25°C (+77°F).



Batteries must never be stored if partially or totally discharged.  
LEGRAND is not liable for any damage or bad functioning caused to the UPS by wrong warehousing of the batteries.

### 4.2 Dismantling

Batteries must be disposed of in a site intended for the recovery of toxic waste. Disposal in the traditional rubbish is not allowed.

Apply to competent agencies in your country for the proper procedure.



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A battery may constitute a risk of electric shock and high short-circuit current.  
When working on batteries, the prescriptions indicated in chapter 2 must be adhered to.

It is important to dismantle the various parts the battery cabinet consists of. For these operations, Personal Protective Equipment must be worn.

Sub-divide the components separating the metal from the plastic, from the copper and so on according to the type of selective waste disposal in the country where the equipment is dismantled.

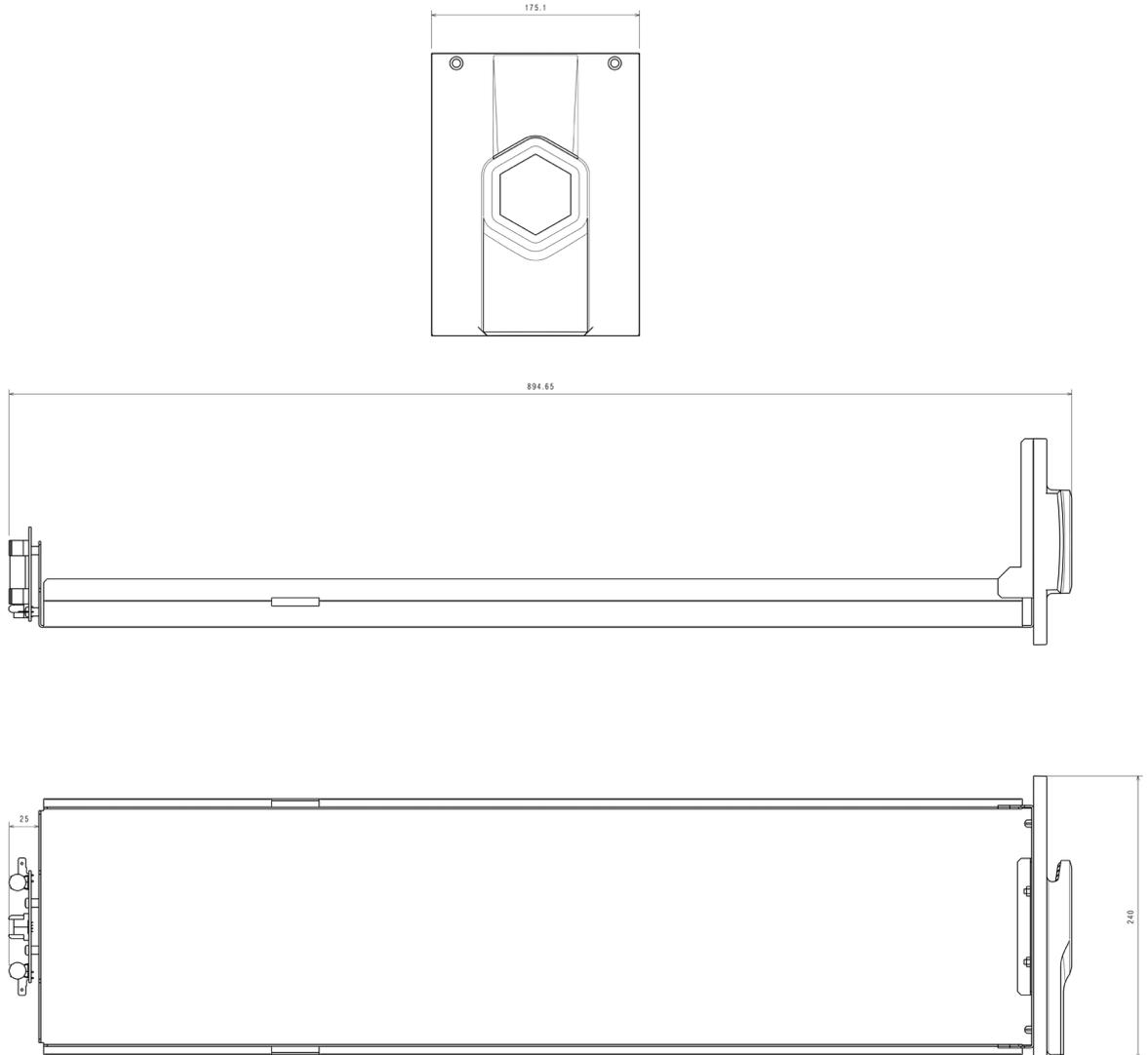
If the dismantled components must be stored before being properly disposed, be careful to keep them in a safe place protected from atmospheric agents to avoid soil and groundwater contamination.

For the disposal of electronic waste, it is necessary to refer to the industry standards.

## 5. Mechanical characteristics

### 5.1 Battery drawer

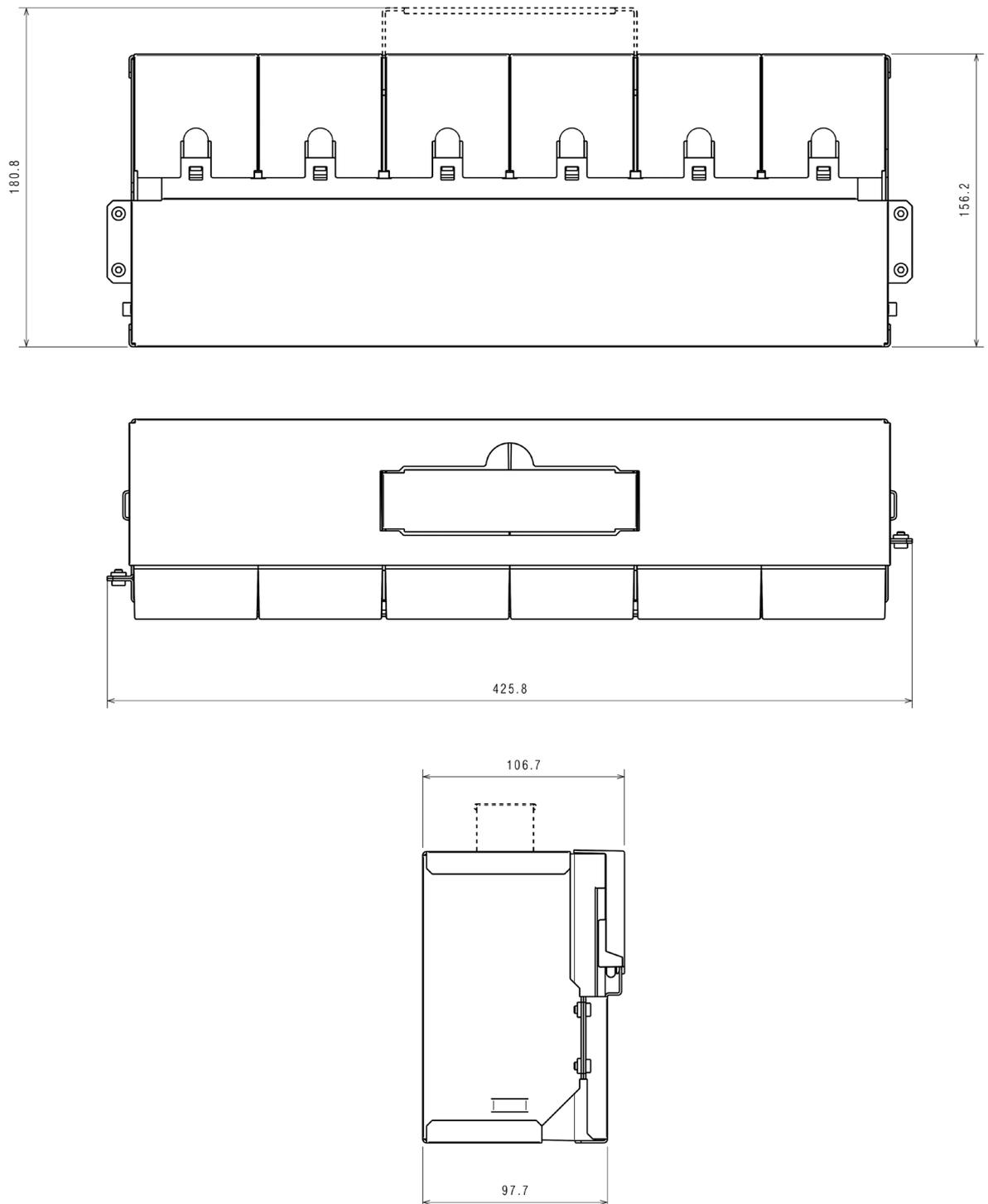
(all the dimensions are in mm)



## 5. Mechanical characteristics

### 5.2 Battery block

(all the dimensions are in mm)



**KEOR MOD**  
**Battery Drawers – Battery Blocks**

