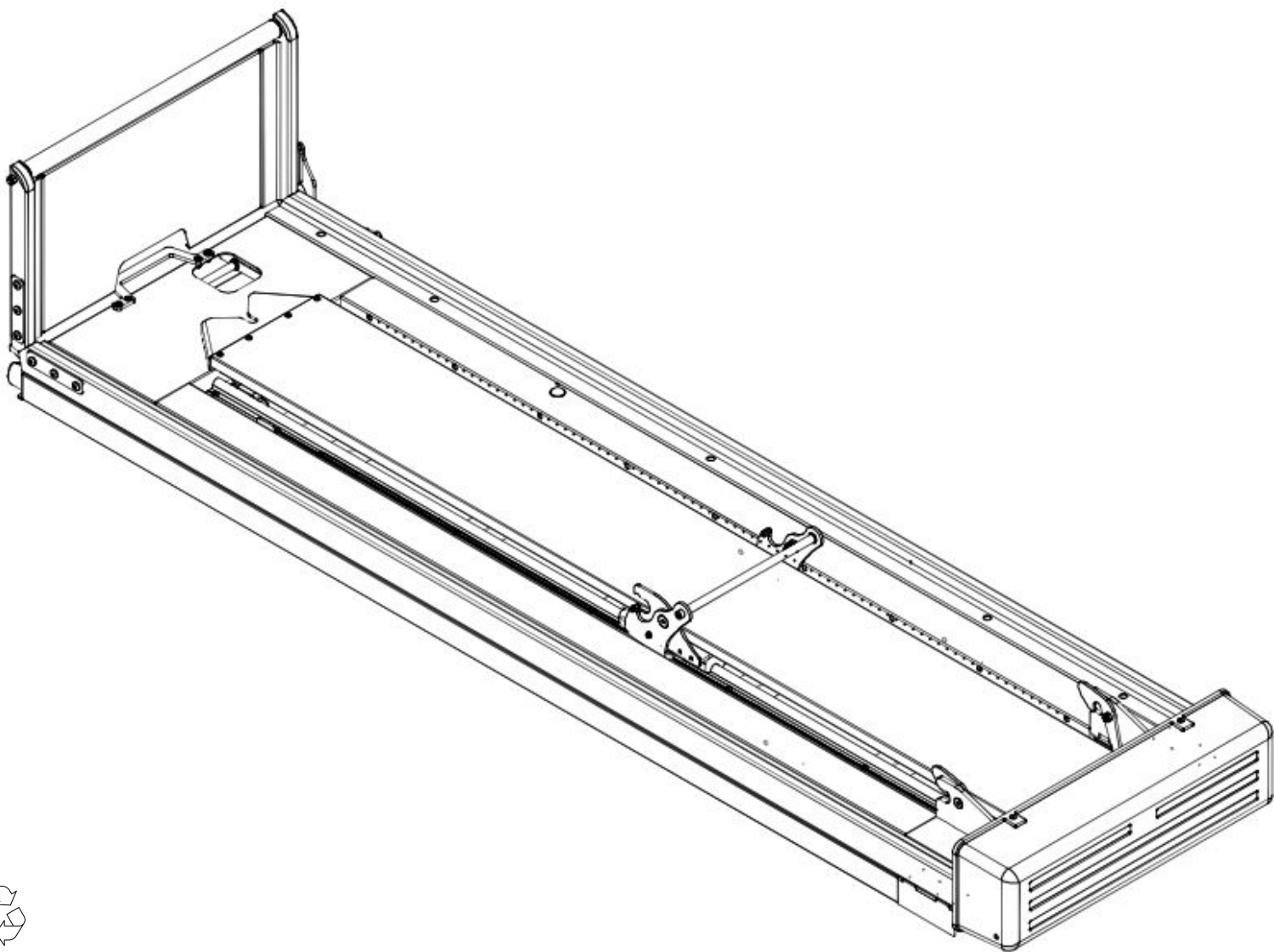


# INSTRUCTIONS FOR USE

Developed by:  
AUTO RIBEIRO, LDA.



## EASY-LOAD STRETCHER SUPPORT

# E 400

AREquipment Customer Relations

For ordering assistance or general information:

CONTACT

Rua S. Caetano 459 e 519  
4410 - 494 Canelas – Vila Nova de Gaia  
Portugal.

Telephone: (+351) 227 157 100

Internet: arequipment.com

Ownership Notice

The information presented in this manual is the property of Auto Ribeiro and/or authorized partners. Auto Ribeiro reserves all rights relating to intellectual property, proprietary design, manufacture, reproduction and marketing of the product and the information contained therein, unless expressly assigned to third parties.

Disclaimer

This manual contains general instructions for the use, operation, functioning and maintenance of this product. These instructions are not exhaustive. The safe and correct use of the product is the sole responsibility of the user.

The safety information included in this manual is intended as guidance for the user. It is the user's responsibility to adopt all additional safety measures required by applicable regulations and local protocols. It is essential that the user receives appropriate training before using this product in real-life situations. Keep this manual for future reference and ensure that it accompanies the product in case of transfer to new users. Additional copies can be requested free of charge from Customer Service.

Limited Warranty Statement

Auto Ribeiro products are covered by a limited warranty, the terms and conditions of which are provided with the purchase documentation. Complete information on the warranty and its limitations can be requested directly from Auto Ribeiro Customer Service.

Adverse Event Warning

In the event of an adverse event or serious incident related to the use of this product, the user must report the incident to Auto Ribeiro and the competent authorities, in accordance with Regulation (EU) 2017/745 on medical devices. To report directly to Auto Ribeiro, please contact us through the communication channels provided in this manual.

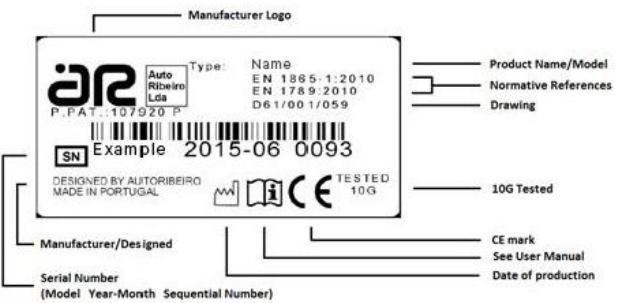
Unique Device Identification (UDI)

Auto Ribeiro complies with the Unique Device Identification (UDI) requirements as regulated by the European Union, allowing for clear identification of medical devices.

The UDI label contains information in human- and machine-readable formats and is located on the product, as indicated in this manual.

The information related to the device is registered in the European Database of Medical Devices (EUDAMED) and the National Authority for Medicines and Health Products (INFARMED), accessible to competent authorities and end users, as applicable.

SERIAL NUMBER



AUTO RIBEIRO, LDA.

Rua de S. Caetano, 459 / 519  
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Read this manual and retain for future reference

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# SAFETY INFORMATION

WARNING 

### Important Safety Guidelines

- Follow the instructions provided to ensure safe operation.
- Risk of falling at the same level - Take special attention to the handling near the equipment, taking into account the risk of falling inside the vehicle.
- Risk of falling at different levels - Take special attention to the handling near the equipment, taking into account the risk of falling from the interior of the vehicle to the exterior.
- Risk of shock or collision with mobile objects - Perform regular maintenance actions to reduce and/or eliminate the risk of shock or collision coming from parts with high wear or gaps.
- Risk of overload or effort to the operator - Perform regular maintenance actions to reduce and/or eliminate the risk of shock or collision coming from parts with high wear or gaps.

Biological risks - Perform regular cleaning actions to reduce the risk of contamination.

Using unauthorized parts or services can lead to injury or equipment failure. Ensure that only AUTO RIBEIRO parts and services are used for maintenance and repairs. Additionally, only AUTO RIBEIRO approved accessories should be used with to maintain safety and functionality.

Warning notices indicate a potentially hazardous situation.

### Disinfection / Cleaning

- Use detergents/disinfectants that are compatible with aluminum, stainless steel and rubber.
- When cleaning, carefully check the product for the concentration suggested by the manufacturer to avoid damaging the equipment material.
- Rinse with a limited amount of water, dry as much as possible and lubricate guides, bars and sliding parts.
- If operating in an aggressive environment (e.g. saline environment), a daily wash/lube cycle is recommended to protect exposed parts.
- The manufacturer is not responsible for any damage caused by the use of a cleaning product that could damage the surface material.

NOTICE

Notices emphasize important, but not hazard-related information.

**E 400**

# E 400



**EASY-LOAD  
STRETCHER SUPPORT**

**are**equipment

# E 400 EASY-LOAD STRETCHER SUPPORT

## ABOUT

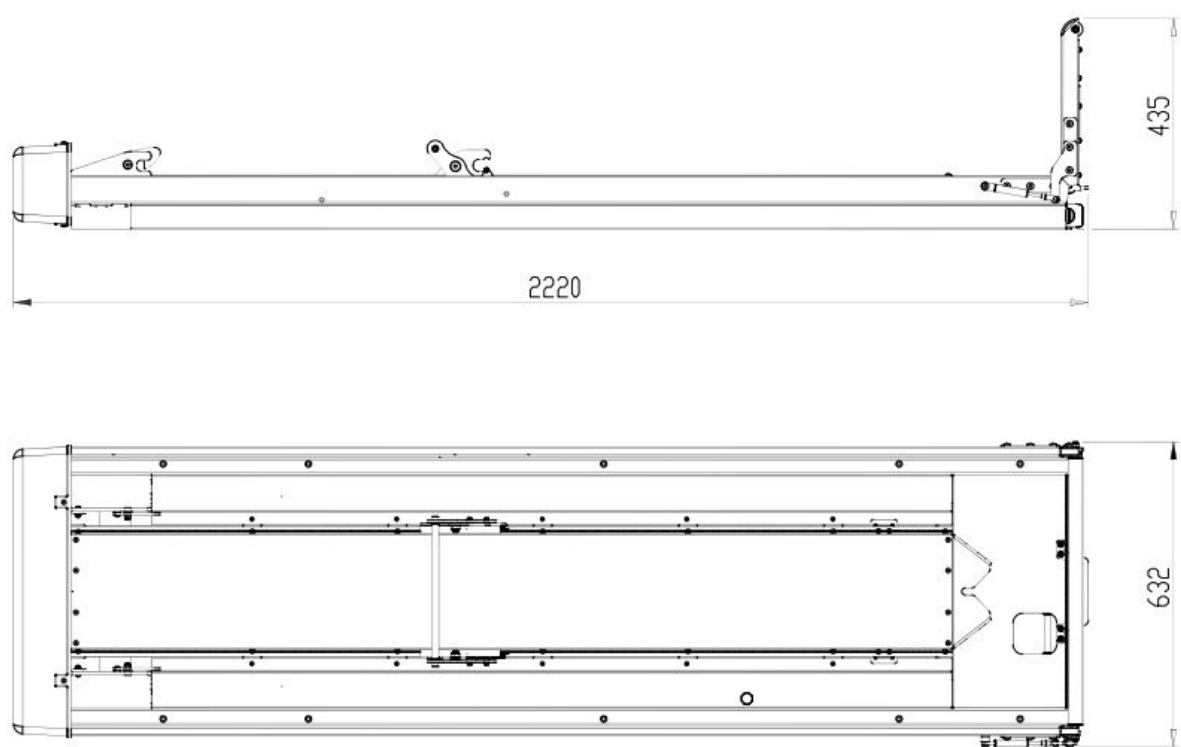
TheE400 is an electrically operated device. The main function is the attachment of the stretcher to the table and is usable in different types of vehicles.

The electrical power eases the access to the ambulance cell and enables the user to make less effort.

Its structure is made of a high resistance alloy and the attachment points are reinforced in steel. All aluminum profiles were designed to ensure the mechanical resistance and provide a pleasant visual aspect.

## SPECIFICATIONS

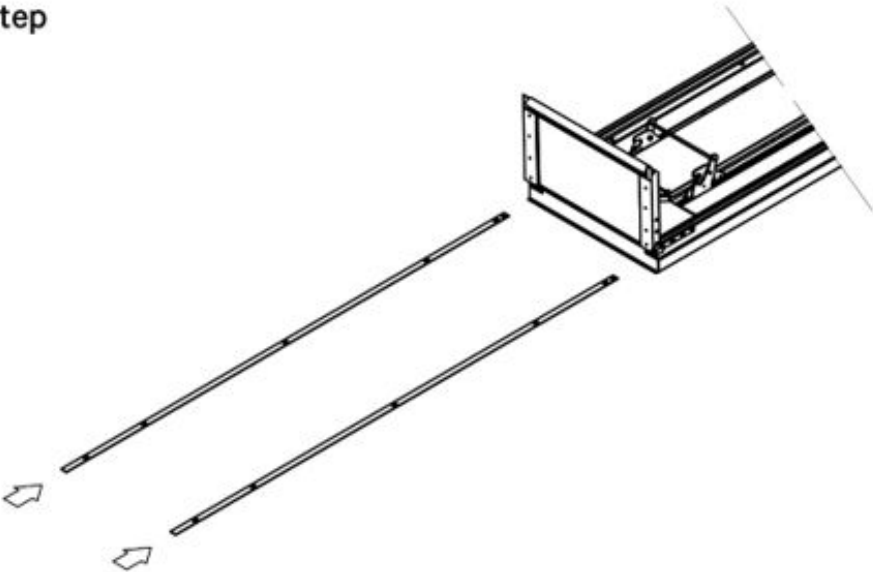
- Weight:85Kg
- Maximum load capacity: 300Kg
- Dimensions: 2220× 635 × 435 mm
- Lightstructure – partially in Aluminium
- 3 attachment points
- Electrically powered movement for loading and unloading
- Security system with power cut
- 12V DC Power





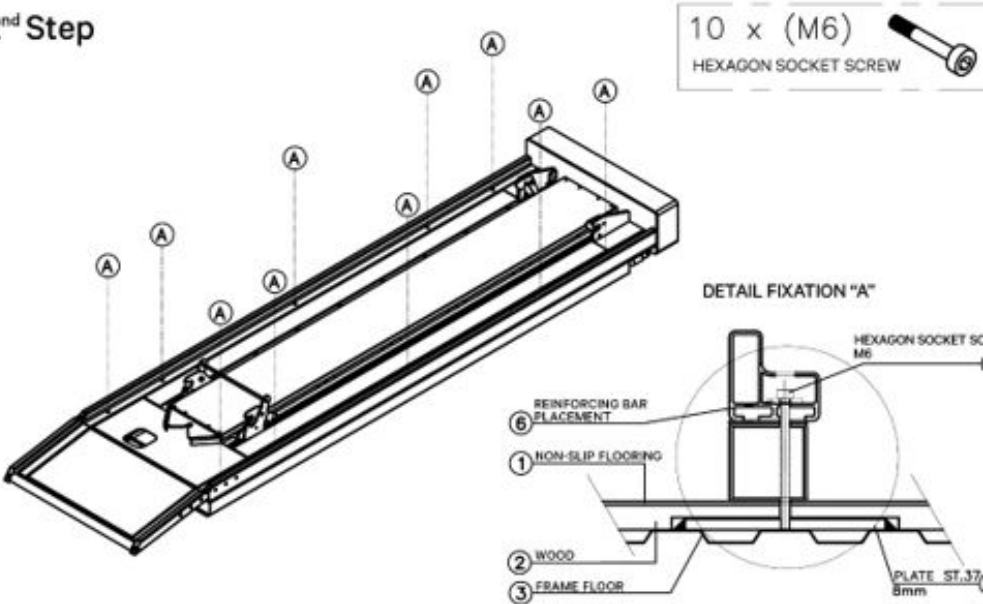
# INSTALLATION

## 1<sup>st</sup> Step



Insert reinforcement bars for fixing

## 2<sup>nd</sup> Step



Mounting on the chassis - Use position A

# Unloading Operation (with trolley installed)

**\* See the figure on page 19 for details.**

1.1

**Pull the red handle for a few seconds to release the hooks (6,7).**

- It causes the movement of the central module around 5 cm, assuring that the upper side hooks are loose/released.
- Central led stays green during this movement.
- Central led stays intermittent red during this movement (intermittent indefinitely).
- Button's light (13,14) turn on and remains on for 10 min, if there are no further actions.
- After starting point 1.1 the red handle has no more fuction.

**Press once the button no. 14 to activate.**

1.2

- The central module moves down until position 8, awaiting new action.
  - Central led stays green during this movement.
- Central led stays intermittent red until you find position 8 (intermittent indefinitely).
- Buttons light (13,14) turn on and remains on for 10 min, if there are no further actions.
- If you press button 13 or 14 without starting point 1.1 there is no movement.

1.3

**Press once the button no. 14 to activate**

- The central module will remain fixed, awaiting further confirmation action.
- Central light turns to intermittent green (intermittent indefinitely).
- Button's light (13,14) turn on and remains on for 10 min, if there are no further actions.

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS



# Unloading Operation (with trolley installed)

\* See the figure on page 19 for details.

1.4

**Press once the button no. 14 to activate**

- The central module moves to the position (11,12) and is released. It stops for 3 seconds and goes up again until the center hooks are completely closed (about 5 cm)
- The central light turns off
- Button light (13,14) turn on and remains on for 10 min, if there are no further actions.

**Press once the button no. 13 to activate**

1.5

- After starting point 1.1 the trolley can still climb back up until (4,5) where it stops.
- After starting point 1.2 the trolley will move until the unloading is complete.
- After starting point 1.2, if the button 13 or 14 is pressed the system stops and the central red light is intermittent (indefinitely).

1.6

**Press once the button no. 14 to activate**

- After point 1.4, if you press button 14 the center hooks may open.

**Press once the button no. 13 or 14 to activate**

1.7

- Before starting point 1.1, if button 13 or 14 is pressed the central red light will be intermittent.

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

# Loading Operation (with trolley installed)

\* See the figure on page 19 for details.

2.1

Install the trolley until the central module fits

- There is no effects

Press once the button no. 13 to activate

- The central module moves up until position 8, awaiting new action.
  - Central led stays green during this movement.
- Central led stays intermittent red until you find position 8 (intermittent indefinitely).
- Button's light (13,14) turn on and remains on for 10 min, if there are no further actions.

2.2

2.3

Press once the button no. 13 to activate

- The central module remains fix, awaiting further confirmation action.
- Central light turns to intermittent green (intermittent indefinitely).
- Buton's light (13,14) turn on and remains on for 10 min, if there are no further actions.

Press once the button no. 13 to activate

- The central module moves to the position (4,5) where the trolley is fixed.
  - The central light turns off. The button's light (13,14) turn on and remains on for 10 min, if there are no further actions.

2.4

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

# Loading Operation (with trolley installed)

\* See the figure on page 19 for details.

2.5

Press once the button no. 13 to activate

-After starting point 2.2 the trolley will move until the loading is complete.

Press once the button no. 13 or 14 to activate

-After starting point 2.2, if the button 13 or 14 is pressed the system stops and the central red light is intermittent (indefinitely).

2.6

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

# EMERGENCY BUTTON

\* See the figure on page 19 for details.

3.1

### Emergency button (Press)

- It causes all movements to stop.
- It cuts the signals to the drive controls.
- Central led stays intermittent red.
- It loses the memory of the direction of movement.
- It loses the memory of the direction of movement, requiring a new command to move the central module

### Emergency button (OFF)

3.2

- The central light turns off
- You need to press 13 or 14 to start movement.

6. Emergency button:



THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

## Unloading Operation (without trolley installed)

\* See the figure on page 19 for details.

### 4.1

**Pull the red handle for a few seconds to release the hooks (6,7).**

- It causes the movement of the central module around 5 cm, assuring that the upper side hooks are loose/released.
- Central led stays green during this movement.
- Central led stays intermittent red during this movement (intermittent indefinitely).
- Button's light (13,14) turn on and remains on for 10 min, if there are no further actions.
- After starting point 4.1 the red handle has no more function.

**Press once the button no. 14 to activate**

### 4.2

- The central module moves down to the position (11,12) and release the central hooks. It stops for 3 seconds and goes up again until the center hooks are completely closed (about 5 cm)
  - Without the trolley installed there is no stop in position 8.
  - Central led stays green during this movement.
  - Button's light (13,14) turn on and remains on for 10 min, if there are no further actions.
- If you press button 13 or 14 without starting point 4.1 there is no movement.

### 4.3

**Press once the button no. 13 to activate**

- After starting point 4.1 the trolley can still climb back up until (4,5) where it stops.
- After starting point 4.2 the trolley will move until the unloading is complete.
- After starting point 4.2, if the button 13 or 14 is pressed the system stops and the central red light is intermittent (indefinitely).

---

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

# Unloading Operation (without trolley installed)

\* See the figure on page 19 for details.

4.4

**Press once the button no. 14 to activate**

-After point 4.2, if you press button 14 the center hooks may open.

**Press once the button no. 13 or 14 to activate**

-Before starting point 4.1, if button 13 or 14 is pressed the central red light will be intermittent.

4.5

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS



# Loading Operation (without trolley installed)

\* See the figure on page 19 for details.

5.1

**Press once the button no. 13 to activate**

- The central module moves to the position (4,5) where it stops. The central light turns off. The button's light (13,14) turn on and remains on for 10 min, if there are no further actions.
- Without the trolley installed there is no stop in position 8.

**Press once the button no. 13 to activate**

- After starting point 5.1 the trolley will move until the loading is complete.

5.2

5.3

**Press once the button no. 13 or 14 to activate**

- After starting point 5.1, if the button 13 or 14 is pressed the system stops and the central red light is intermittent (indefinitely).

THE OPERATOR MUST ALWAYS ACCOMPANY THE STRETCHER DURING THE UNLOADING PROCESS

# Modification of the Mondial chassis

## WARNING

These adjustments are urgently required to prevent injury to the operator and patient, as well as damage to the Mondial chassis and the E400.

## REQUIREMENTS

To modify the Mondial stretcher, you need the E400 accessory package, which is included to every E 400.  
The E400 accessory package is also available separately, e.g. for modifying other Mondial stretchers.

The E 400 accessory package consists of a reinforced axle with new fixing bolts, two reinforcing U -profiles and two fixing bolts for the side loading wheels.  
The modification of the Mondial stretcher is carried out at the loading end of the Mondial stretcher.



Components to be modified or replaced



# Modification of the Mondial chassis

## AXLE REPLACEMENT

To carry out the modifications and adaptations, you need the appropriate tools and threatlocker (e.g. Loctite).  
For easier handling, tilt the stationary chassis onto the operator's end.

To replace the axle, first loosen the retainer of the loading wheels at the head end.  
  
Loosen the fastening screws of the loading wheel holder. Once you have completely loosened the screws, you can turn the holder of the loading wheels upward.  
This makes the fastening screws of the axle accessible.

Loosen the fastening screws of the axle and remove the axle.

Insert the new reinforced axle.

Be sure to add some Loctite to the threads of the new mounting screws and attach the reinforced axle with the new mounting screws.

Tighten the fastening screws firmly\_ It should no longer be possible to turn the axle.

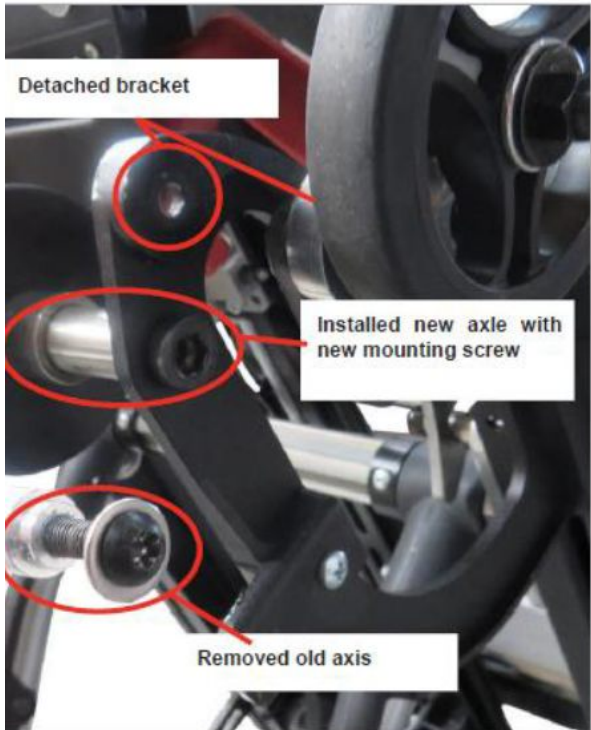
Rotate the loader wheel bracket back to the correct position and secure the bracket with the existing mounting screws.



Fastening screw for the holder of the loading wheel



Rear side of the bracket for the loading wheel



Loosened and rotated mounting bracket of the loading wheels, removed old axle and installed new reinforced axle.

# Modification of the Mondial chassis

## MODIFICATIONS OF THE U-PROFILES OF THE SIDE LOADING WHEELS

The existing U-profiles of the side loading wheels must be reinforced with the additional LI-profiles of the E 400 accessory kit- First loosen the fastening screws of the side loading wheels and remove them. You get easier access to the nuts on the inside by lowering the chassis one step at the head end. Set an additional LI-profile from the rear of the existing U-profile and mount the additional LI-profile to the existing LI-profile using the 4 fastening screws provided. The screw heads point to the outer side of the stretcher. Once the additional U-profile has been fastened, you can remount the lateral loading wheel using the new, longer fastening screw. Please modify the U-profiles on both sides of the stretcher.



U-profile with removed side loading wheel

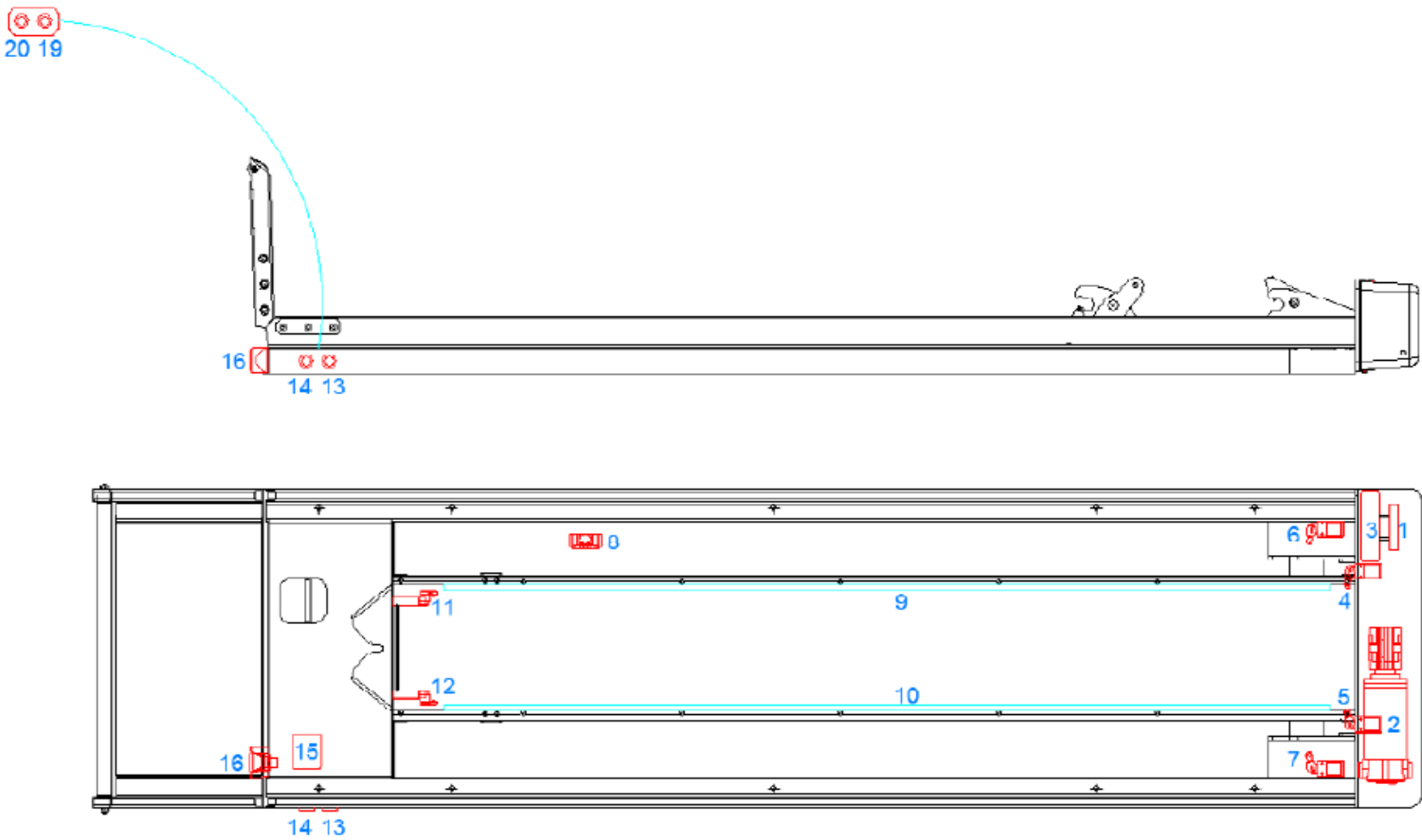


Set the additional U-profile to the existing U-profile from the rear side !



Fixed additional U-profile with mounted loading wheel

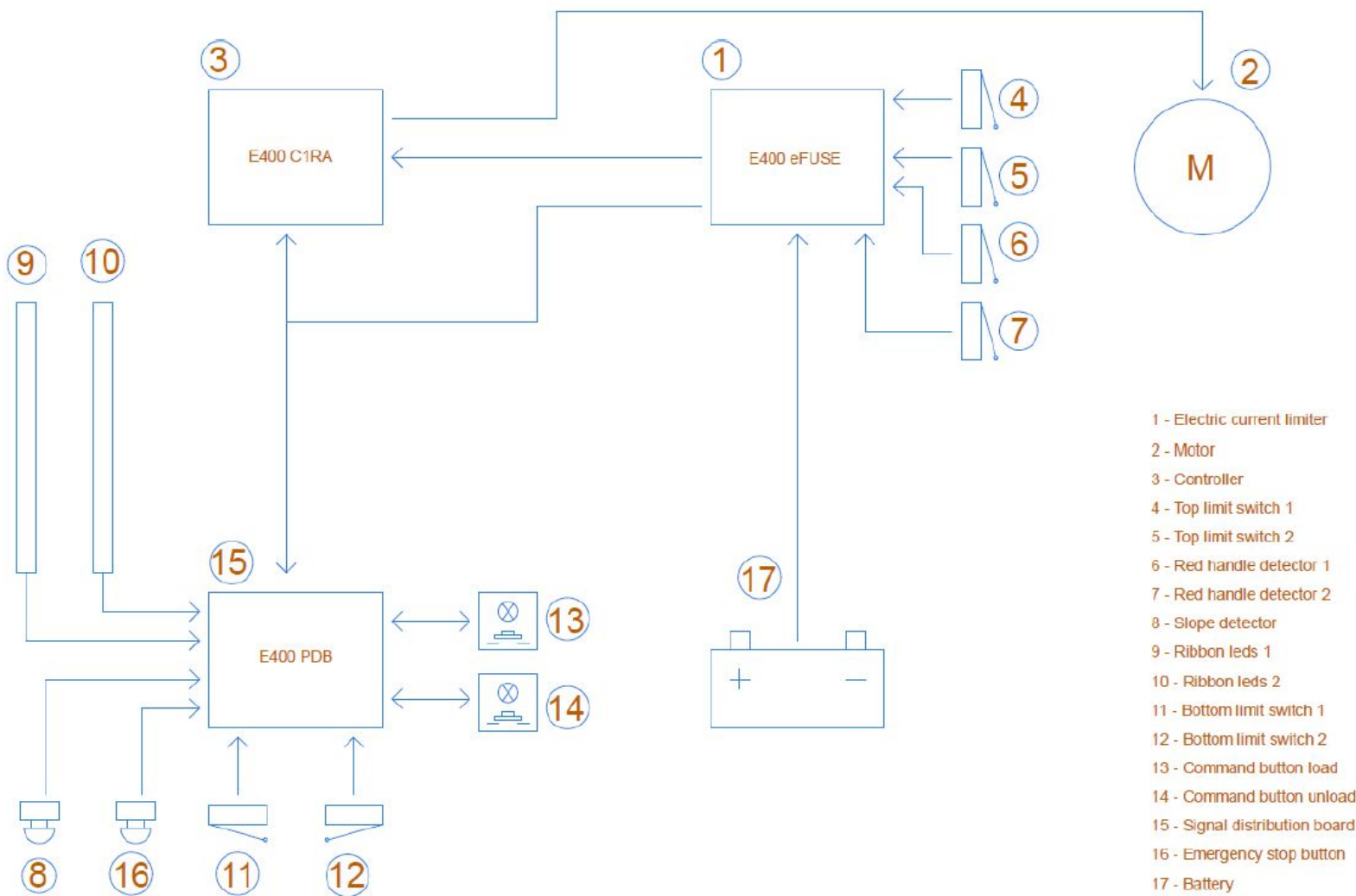
ELECTRIC COMPONENTS



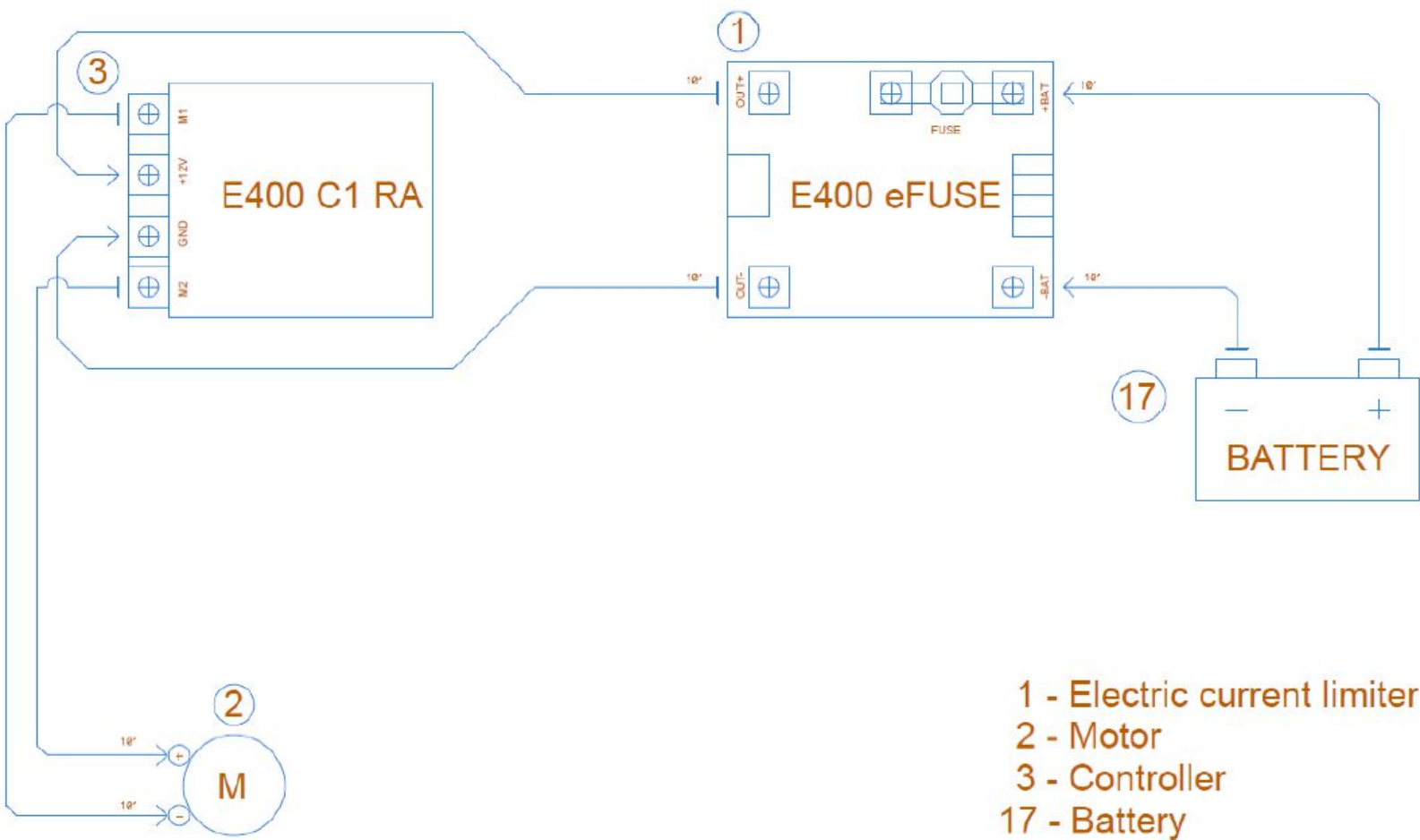
Position	Description
1	Electric current limiter
2	Motor
3	Controller
4	Top limit switch 1
5	Top limit switch 2
6	Red handle detector 1
7	Red handle detector 2
8	Slope detector
9	Ribbon leds 1
10	Ribbon leds 1
11	Bottom limit switch 1
12	Bottom limit switch 2
13	Command button load
14	Command button unload
15	Signal distribution board
16	Emergency stop button
19	External Command button - Load
20	External Command button - Unload



GENERAL ELECTRICAL DIAGRAM

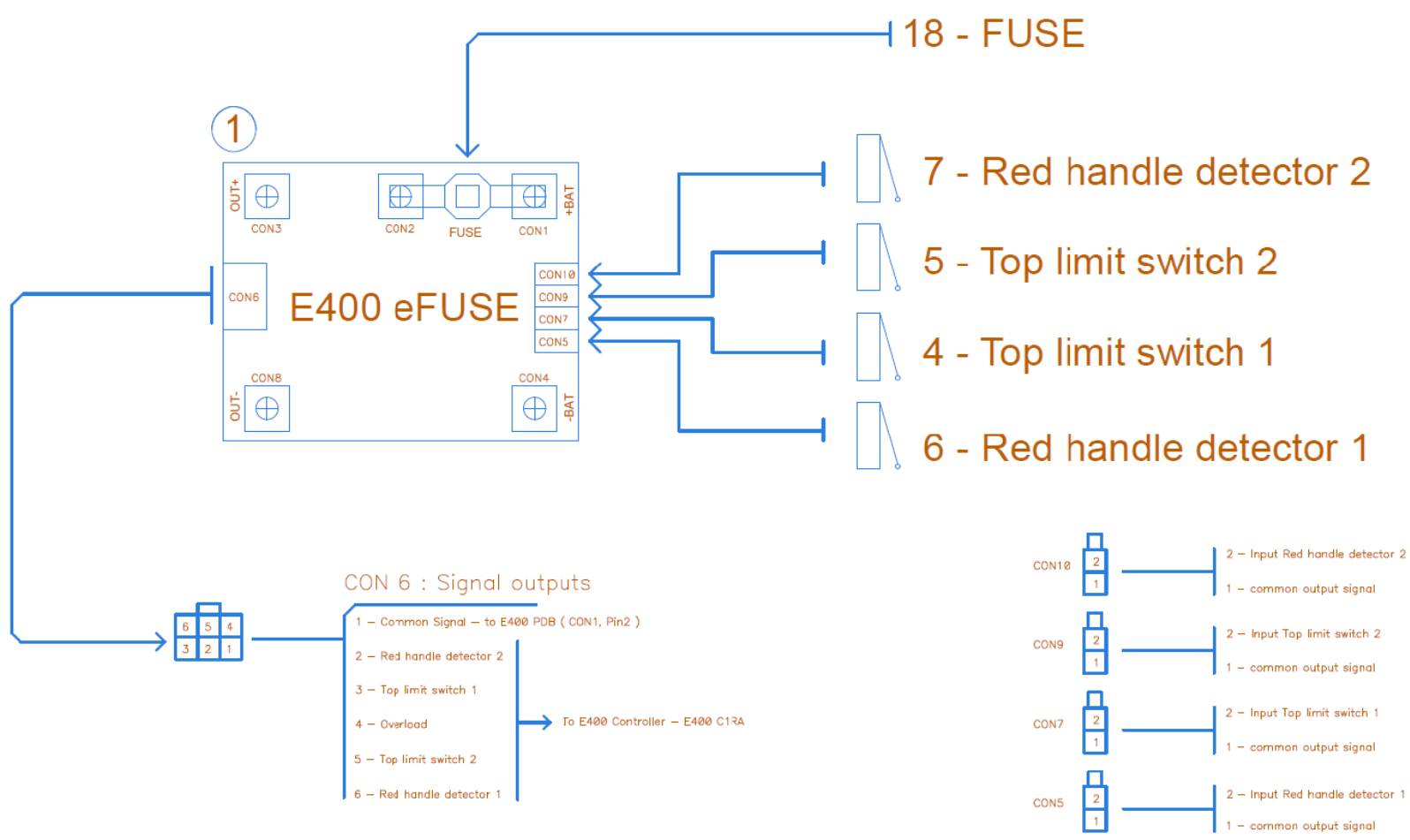




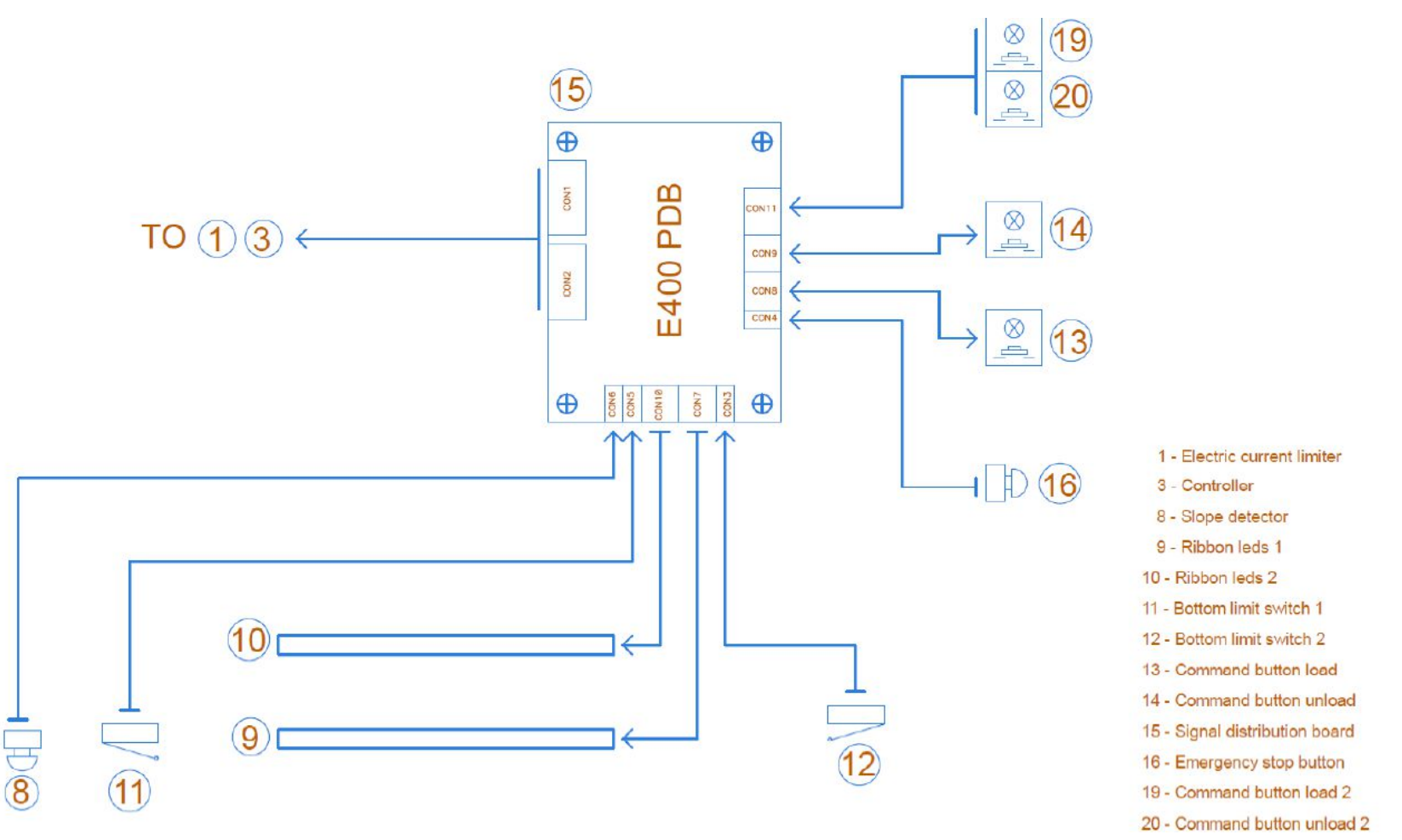


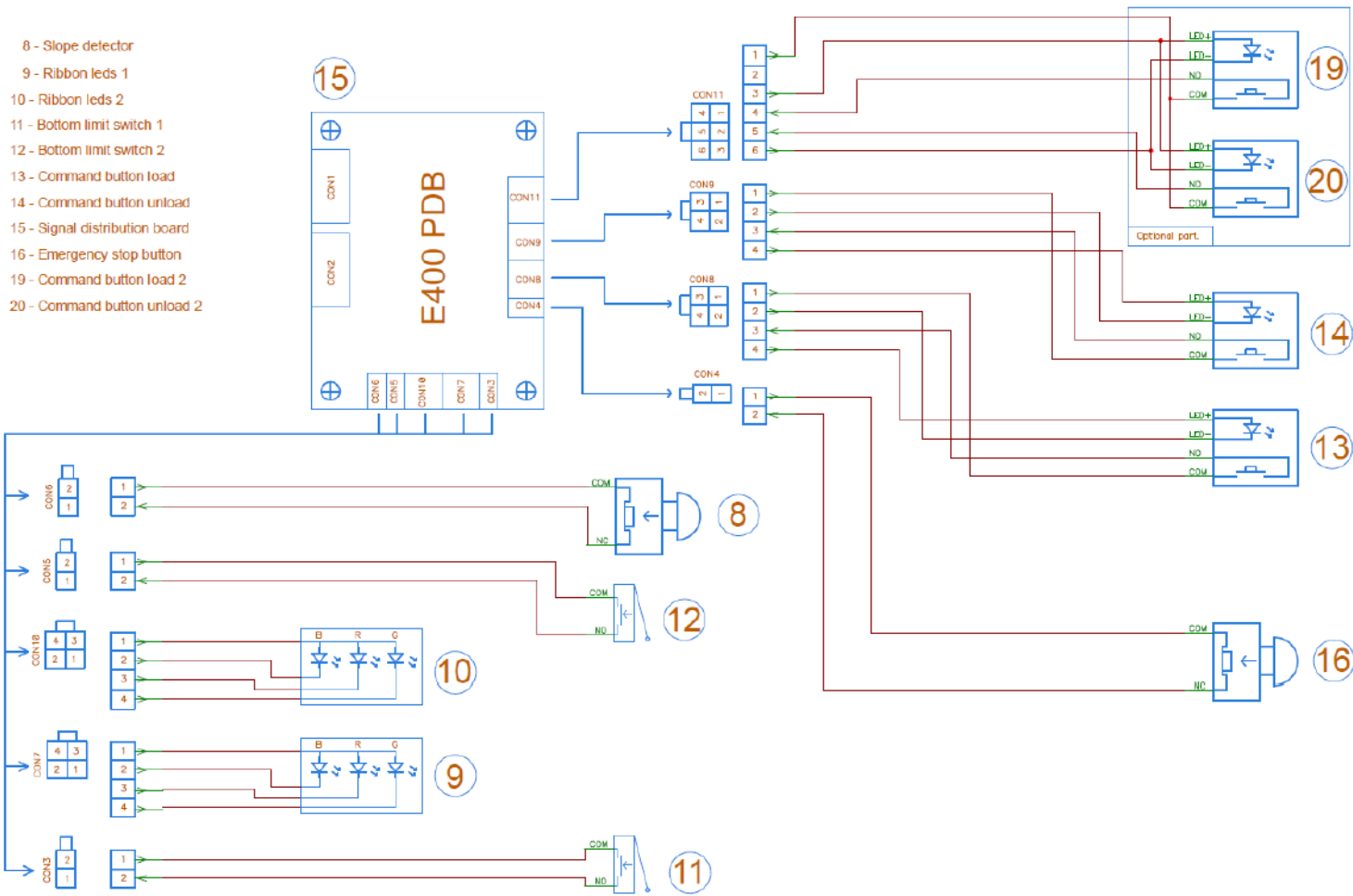
- 1 - Electric current limiter
- 2 - Motor
- 3 - Controller
- 17 - Battery

ELECTRIC CURRENT LIMITER



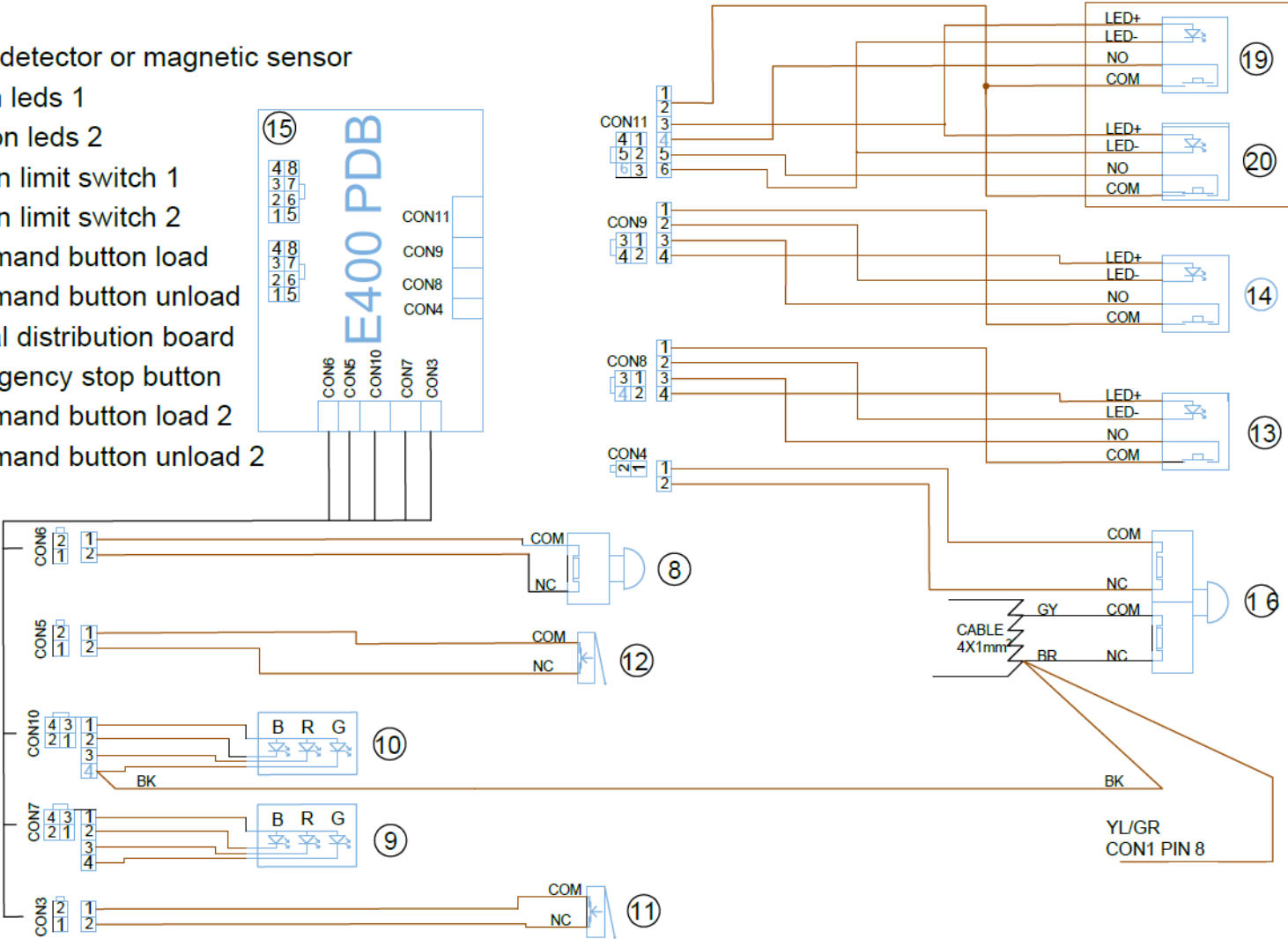
SIGNAL DISTRIBUTION BOARD

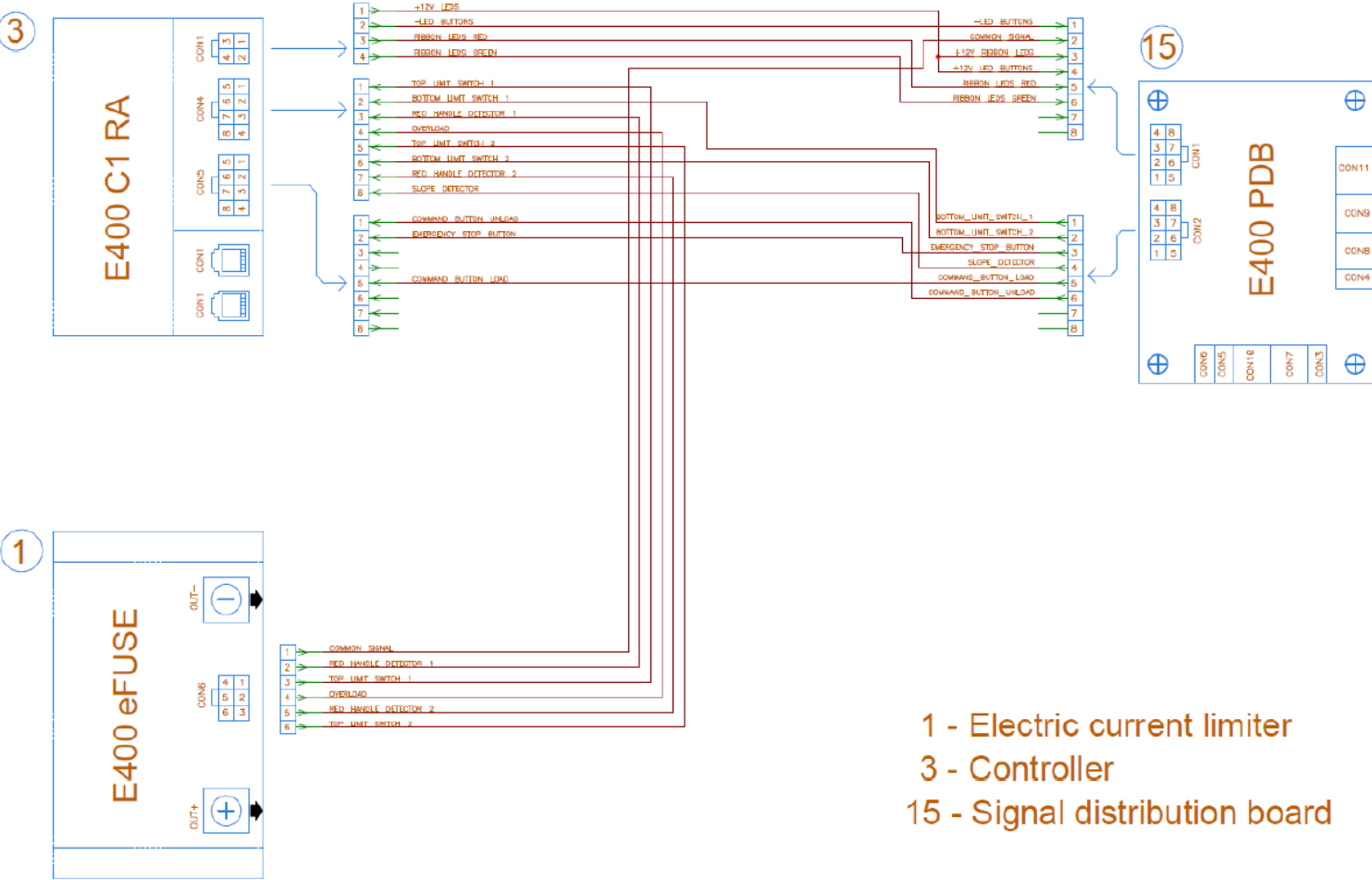




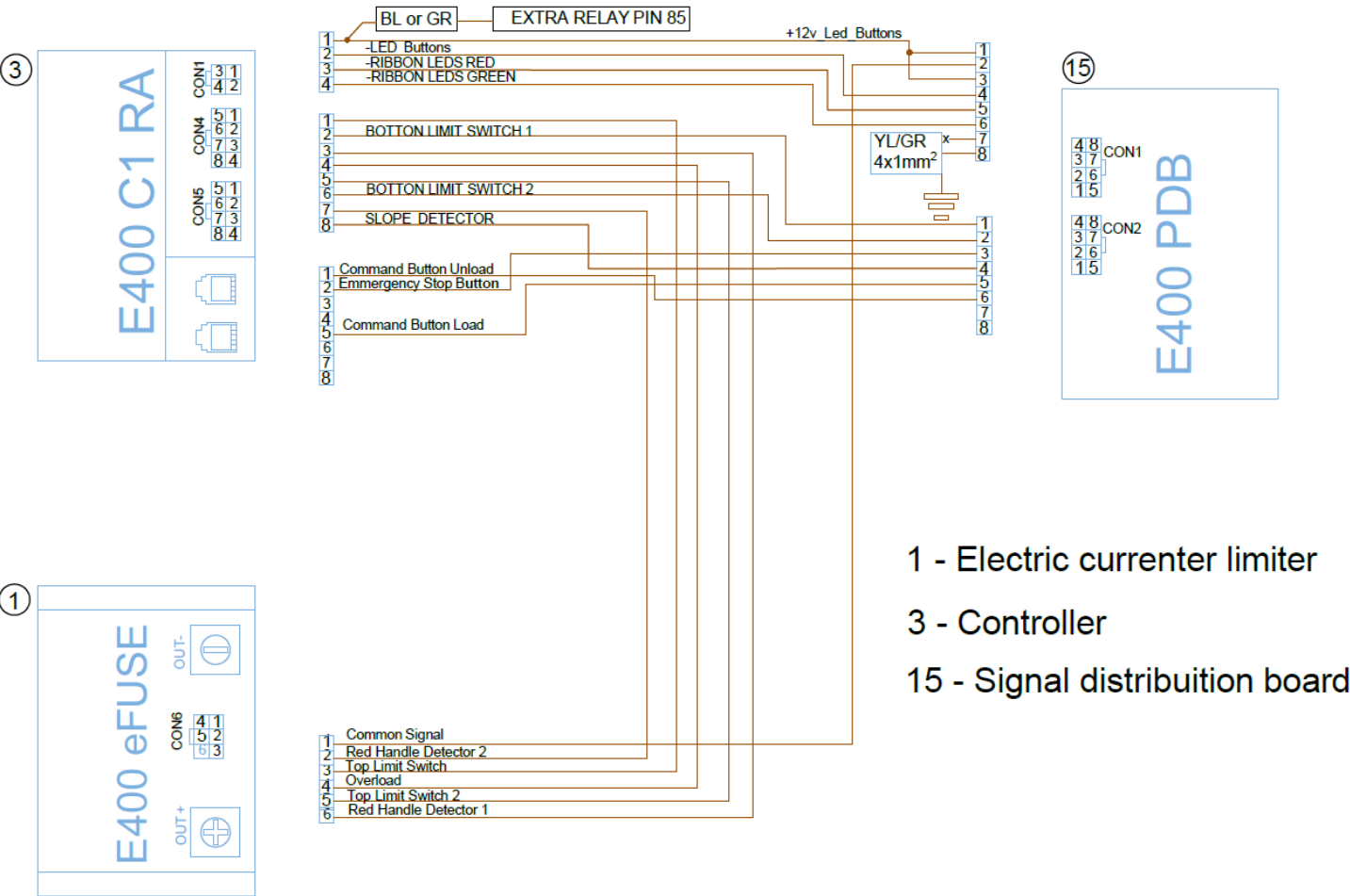
CONTROLLER

- 8 - Slope detector or magnetic sensor
- 9 - Ribbon leds 1
- 10 - Ribbon leds 2
- 11 - Botton limit switch 1
- 12 - Botton limit switch 2
- 13 - Command button load
- 14 - Command button unload
- 15 - Signal distribution board
- 16 - Emergency stop button
- 19 - Command button load 2
- 20 - Command button unload 2



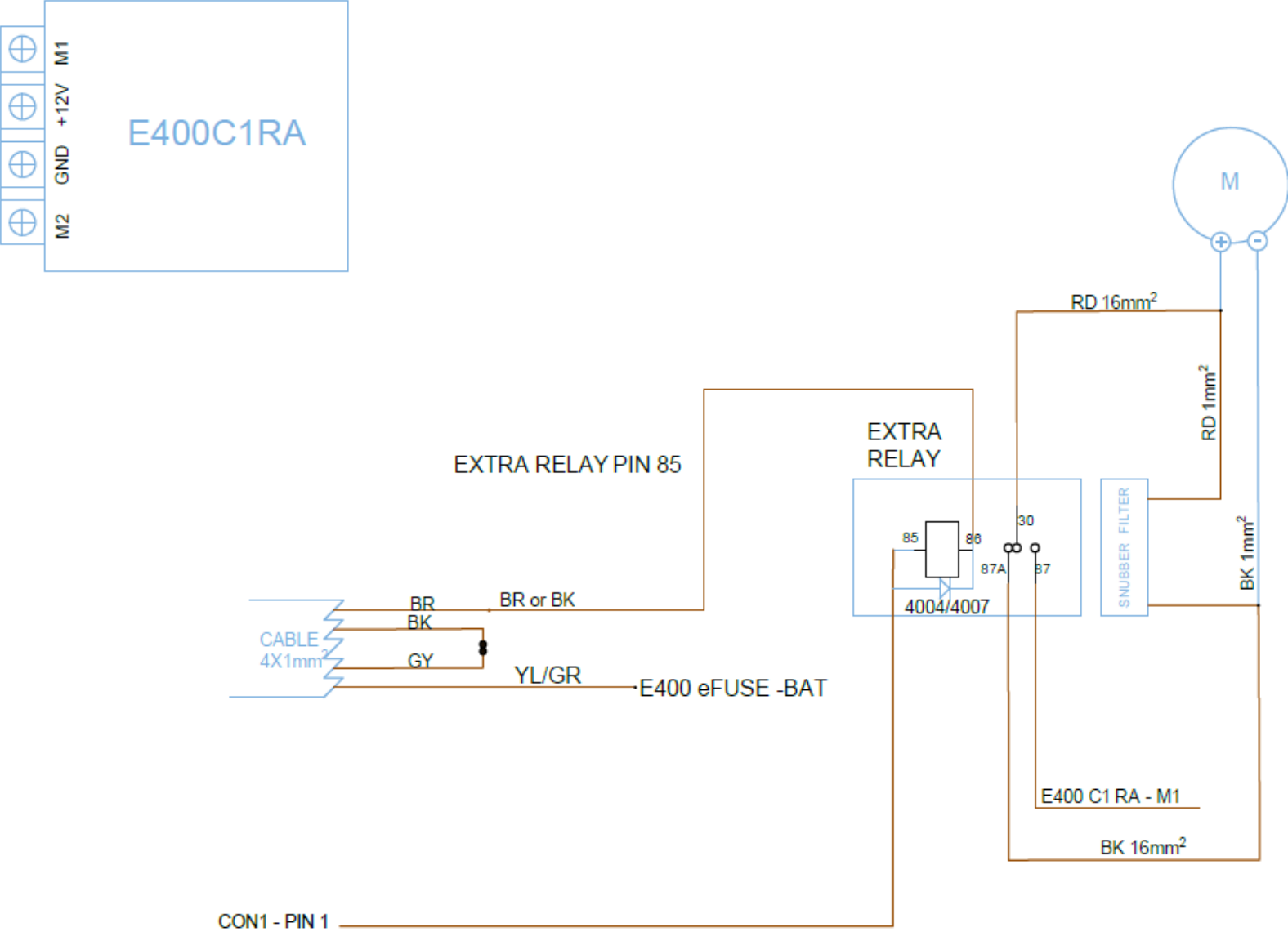




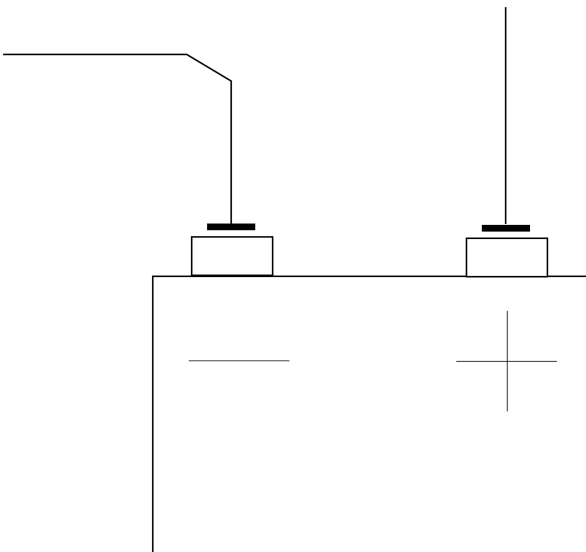


- 1 - Electric currenter limiter
- 3 - Controller
- 15 - Signal distribution board

E 400



# ELECTRICAL INSTALLATION



## Electrical installation

The installation that supplies the equipment must consist of two 16 mm<sup>2</sup> wires, one red and one black. The red wire should be connected to the positive pole, while the black wire should be connected to the negative pole.

Next to the battery, it is essential to install a 70A fuse, which must be positioned no more than 30 cm away from it.

It is important to note that the use of current cut-offs is not permitted in this installation.

# SCHEDULED MAINTENANCE



The equipment needs regular maintenance to maintain correct and smooth operation. Establish and follow a maintenance schedule. The table shows the minimum maintenance intervals.

When using maintenance products, follow the manufacturer's instructions and read the manufacturer's material safety data sheets.

Make sure you carry out a visual inspection every 50 uses

Use detergents/disinfectants that are compatible with aluminum, stainless steel and rubber.

When cleaning, carefully check the product for the concentration suggested by the manufacturer to avoid damaging the equipment material.

Rinse with a limited amount of water, dry as much as possible and lubricate guides, bars and sliding parts.

If operating in an aggressive environment (e.g. saline environment), a daily wash/lube cycle is recommended to protect exposed parts.

The manufacturer is not responsible for any damage caused by the use of a cleaning product that could damage the surface material.

**Disinfection**

Each use

**Cleaning**

Each use

As needed

**Inspection**

3 months

**Lubrication**

3 months

# MAINTENANCE RECORD

[illegible]

# MAINTENANCE RECORD

[illegible]



# MAINTENANCE RECORD

[illegible]

