# STAFER

433,42 MHz

User manual:
594.R.EN.00

Dear Customer,
Thank you for purchasing a STAFER S.p.A. product.

This guide contains all the information you will need concerning the use of this product. Read the instructions carefully and keep them for further consultation.

The receiver module 594.R.EN.00 is a radio receiver with dry output contacts and adjustable working time.

All other use beyond the field defined by STAFER S.p.A. is forbidden. This, as well as the breach of the instructions given in this guide, shall release STAFER S.p.A. from any liability and shall annul the product warranty.

**NOTE:** This product is compatible with Arco and equivalent transmitters.

Before starting the programming procedure, read the instruction manual of the transmitter.
**In the following description the transmitter is represented in a generic way.**

www.stafer.com

## Index

## Contents of package

✓ n° 1 594.R.EN.00
✓ n° 1 wall bracket
✓ this manual

## Disposal

At the end of the product life cycle, dispose of the device in compliance with local regulations. This product could contain substances that are harmful to human health and the environment: do not dispose of the product in domestic waste.

## Notes on radio systems

Do not use radio systems in places with strong interference (for example, near police stations, airports, banks, hospitals). It is in any case advisable to carry out a technical inspection prior to installing any radio system in order to identify possible sources of interference.

Radio systems can be used where any disturbances or malfunction of the transmitter or receiver do not constitute a risk factor, or if such factor is eliminated using appropriate safety systems.

The presence of radio devices working at the same transmission frequency (433.42 MHz) may interfere with the radio receiver and reduce the range of the system, limiting functionality.

## Technical specifications

✓ Power supply: 120 or 230 Vac, 50/60 Hz
✓ Contacts capacity: 5A @ 250 Vac
✓ Dimensions: 45 x 38 x 25 mm
✓ Weight: 40 gr
✓ Working temperature: from -20 to +55°C
✓ IP protection: IP20
✓ Working time: from 1 to 240s
✓ Frequency: 433.42 MHz
✓ Memorizable transmitters: 15*
✓ Memorizable sun sensor: 1
✓ Memorizable wind sensor: 4
✓ Range (estimes): 100 m outdoor, 20 m indoor

(*) rain sensor included

## 01. WARNINGS!

### 01A. WARNING FOR SAFETY

✓ Incorrect installation can cause serious injuries.
✓ Keep these instructions for future maintenance work and disposal of the product.
✓ All the product installation, connection, programming and maintenance operations must be carried out only by a qualified and skilled technician, who must comply with laws, provisions, local regulations and the instructions given in this manual.
✓ The wiring must comply with current IEC standards.
✓ Some applications require hold-to-run operation and can exclude the use of radio controls or require particular safety devices.
✓ To prevent potentially dangerous situations, check the operating condition of the roller shutter/awning regularly.
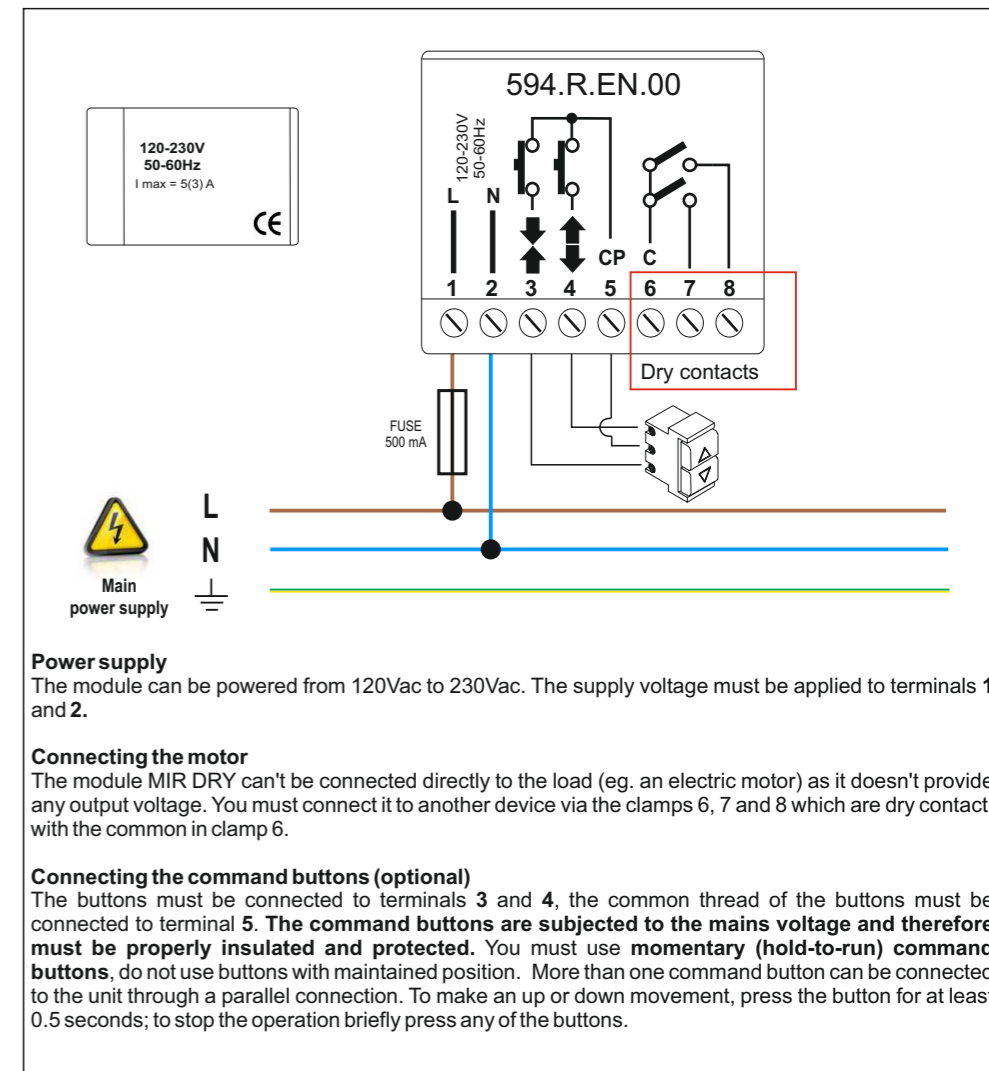
### 01B. WARNING FOR INSTALLATION

✓ Check that the package is intact and has not been damaged in transit.
✓ The product is designed to be inserted inside of junction boxes. The module does not provide any protection against water and only essential protection for contact with solids.
✓ It is forbidden to install the module in areas not adequately protected, and near sources of heat.
✓ Use momentary (hold-to-run) control buttons. Do NOT use stay-put switches.
✓ Position the buttons within sight of the roller shutter/awning but a long way from its moving parts. Position the buttons more than 1.5 m from the floor.
✓ Install the product carefully, using suitable tools.
✓ If there are several radio appliances in the same system, they must not be less than 1.5 m apart.
✓ Do not install the product near metal surfaces.
✓ Do not modify or replace parts without the manufacturer's permission. Do not pierce or tamper the box.
✓ The antenna cable carries line voltage. Do not cut the antenna cable as this would be dangerous. If the antenna cable is damaged, replace the product.

### 01C. WARNING FOR USE

✓ The product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or given instructions on how to use the product by a person responsible for their safety.
✓ Before operating the roller shutter/awning, make sure there are no people or objects in the area involved in its movement. Check the automation during movement and keep people at a safe distance, until the movement ends.
✓ Do not allow children to play with the appliance or with the fixed control devices. Also, keep the portable control devices (remote controls) out of the reach of children.
✓ Do not operate the roller shutter/awning when maintenance operations are being carried out (e.g. window cleaning). If the control device is automatic, disconnect the motor from the power line.

## 02. ELECTRICAL CONNECTION

✓ Make the connections with the power switched off.
✓ Check that the power line does not come from electrical circuits intended for lighting.
✓ A circuit breaker or residual current device must be inserted in the power line. An isolating device with overvoltage category III, namely distance between contacts of at least 3.5 mm, must be inserted in the power line
✓ The product has no protection against overloads or short circuits. Install a protective device in the power line that is appropriate for the load, such as a fuse of max. 500mA.
✓ You can not connect more than one motor directly to the module.
✓ Use momentary (hold-to-run) control buttons. Do NOT use stay-put switches. The control buttons are connected to the line voltage and must therefore be properly isolated and protected.

594.R.EN.00

Dry contacts

**Power supply**
The module can be powered from 120Vac to 230Vac. The supply voltage must be applied to terminals **1** and **2.**

**Connecting the motor**
The module MIR DRY can't be connected directly to the load (eg. an electric motor) as it doesn't provide any output voltage. You must connect it to another device via the clamps 6, 7 and 8 which are dry contact, with the common in clamp 6.

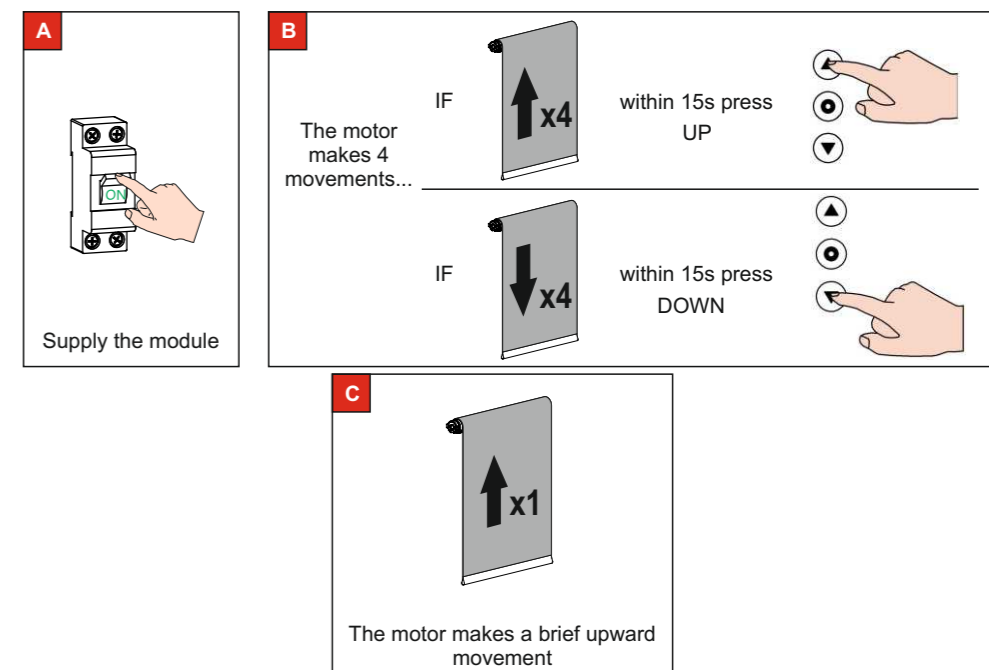**Connecting the command buttons (optional)**
The buttons must be connected to terminals **3** and **4**, the common thread of the buttons must be connected to terminal **5**. **The command buttons are subjected to the mains voltage and therefore must be properly insulated and protected.** You must use **momentary (hold-to-run) command buttons**, do not use buttons with maintained position. More than one command button can be connected to the unit through a parallel connection. To make an up or down movement, press the button for at least 0.5 seconds; to stop the operation briefly press any of the buttons.

**WARNING:**
the figures used in the following paragraphs are generically referred to a motor that moves a roller blind. Depending on the load applied to the module, the terms UP and DOWN can have different meanings (eg. LEFT and RIGHT or OPEN and CLOSE).

## 03. FIRST INSTALLATION

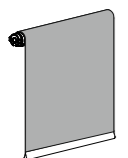This procedure is used to memorize the first transmitter.

**A** Supply the module

**B** The motor makes 4 movements...
IF x4 within 15s press UP
IF x4 within 15s press DOWN

**C** The motor makes a brief upward movement
x1

**NOTE:**
In the event that the installation is not successful, you can restore your system to factory condition (see section 11. RESET).
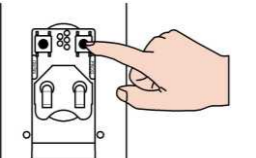
## 04. MEMORIZATION / DELETION OF A RADIO DEVICE

With this procedure you can store / delete others transmitters in addition to the first already stored, or store / delete wind sensor or a sun/wind sensor or store / delete a rain sensor.
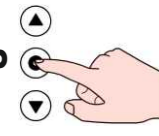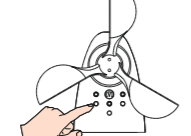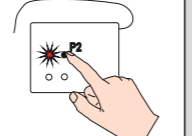
**A** — Bring the motor to an intermediate position

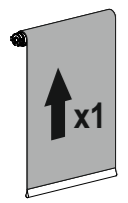**B** — Press for 5 seconds the **PROG** button of a transmitter already memorized.

**C** — x2 — The motor makes 2 upward movements
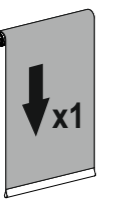
**D** — WITHIN 15 SECONDS PRESS:

| Hand-held TRANSMITTER | WIND SENSOR | RAIN SENSOR |
| --- | --- | --- |
| (1) STOP ▲ ▼ | (1) P1 | (1) P2 |

**E** — x1 MEMORIZED ! | ↓ x1 DELETED !
The motor signals the operation performed

**NOTES:**
✓ The module can store up to 15 radio codes (excluding sensors, wind or sun / wind radio). The "out of memory" condition is indicated with two downward movements.
✓ If the motor has stored a single hand-held transmitter, it can't be deleted (the non-cancellation is indicated by two downward movements).
✓ The module can store up to 4 wind radio sensor, one of which may be a sun sensor / wind. The "out of memory" condition is indicated with two downward movements.
✓ The module can store more rain sensors.
(1) If the sensor is a battery sensor button 1 must be pressed up to 10 seconds.
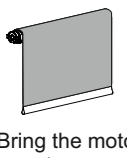
## 05. OPERATING LOGIC OF WIND SENSOR

If a wind radio sensor measures that the wind speed is above the threshold set on the sensor, the wind sensor sends the message of "wind alarm": the modules tuned to it makes an upward manoeuvre and commands are inhibited as long as it remains the dangerous situation.

### 05.1 TEST RADIO FUNCTION

As soon as in the module is stored a wind sensor is automatically activated control of communication between the wind sensor and the module. If communication is lost for more than 60 minutes, the module performs an upward movement for the protection of the roller. This manoeuvre is performed automatically every 60 minutes until the restoration of radio communication. The factory recommends keeping the "radio test" in order to identify in good time any malfunction of the radio sensor. With the following procedure you can enable or disable the "radio test":

**A** — Bring the motor to an intermediate position

**B** — Only available with sensor 593KXS00, 593KXB00.
In the case of 10 channels trasmitter select the correct radio channel.
01. Bring the motor on the intermediate position.
02. **By trasm. 594:** press **MENU** for about 5 seconds; **rS** appears on the display
**By trasm. 593:** while press **STOP** also press **PROG** for about 1 sec., until the LED lights up.
03. **By trasm. 594:** press one time **PREV** and 7 times **NEXT**. 17 appears on the display.
**By trasm. 593:** press once **UP** and 7 times **DOWN**.
04. Press one time **STOP**. The receiver signals the current value.
**Function active: ▲ 1** (1 short upward movement)
**Function not active: ▼ 1** (1 short downward motion)
05. **By trasm. 594:** press **PREV** to disable the function (**Of** appears on the display) or **NEXT** to enable the function (**On** appears on the display).
**By trasm. 593:** press **DOWN** to disable the function or **UP** to enable the function.
06. Press one time **STOP**. The receiver signal the new value.
**Function active: ▲ 1 - Function not active: ▼ 1**

## 06. OPERATING LOGIC OF SUN SENSOR

If the sun sensor measures a brightness above the threshold set for at least 2.5 minutes, sends the message "sun" and modules, tuned to it, command a downward movement. If the sun sensor measures a brightness below the threshold set for at least 18 minutes, sends the message of "no sun" and modules 594REN00, tuned to it, command an upward movement.
The "sun function" can be activated / deactivated from the transmitter (see transmitter manual under "sun function"). If the "sun function" is deactive, 594REN00 ignores the commands about the sun sent from the radio sensor.
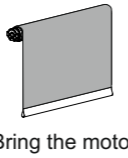
## 07. OPERATING LOGIC OF RAIN SENSOR

If the rain sensor measures a rain intensity exceeds the threshold set on the sensor, the rain sensor sends the message "rain" and modules 594REN00, tuned to it, performs an upward or downward manoeuvre, according to how is set the rain sensor. The manual controls are still active. More rain sensors can be stored in the same 594REN00.

## 08. WORKING TIME

Is the closure time of the relays when a manoeuvre is commanded . The factory sets the "working time" to 120 sec.

**A** — Bring the motor to an intermediate position

**B** — In the case of 10 channels trasmitter select the correct radio channel.
01. Bring the motor on the intermediate position.
02 **By trasm. 594:** press **MENU** for about 5 seconds; **rS** appears on the display
**By trasm. 593:** while press **STOP** also press **PROG** for about 1 sec., until the LED lights up.
03. **By trasm. 594:** press 7 times **NEXT**. 07 appears on the display.
**By trasm. 593:** 7 times **DOWN**.
04. Press 1 time **STOP**. The receiver signals the current value. Example:
if it gets up for sec. = 2: ▲ 2 ( 2 short upward movements)
if it gets up for sec. = 35: ▲ 3 - pause - ▲ 5
if it gets up for sec. = 120: ▲ 1 pause ▲ 2 pause ▲ 1long
05. Using **PREV/DOWN** and **NEXT/UP** to set the new value:
for time = 3: 0 time **PREV/DOWN** and 3 times **NEXT/UP**
for time = 15: 1 time **PREV/DOWN** and 5 times **NEXT/UP**
(must be between 5 and 240)
06. Press one time **STOP**. The receiver signal the new value.

**NOTES:**
Motor signals the current «working time».
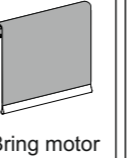Example: if «working time» is 120 s, motor signal is:
**1 briefly movement = 1** Pause - **2 briefly movements = 2** Pause - **1 large movement = 0**
If you try to set «Working time» lower than 5s or greater than 240s, the value is rejected and the motor makes 2 short movements down

## 09. ORIENTATION FUNCTION

This feature can be useful, for example in the handling of sun protection. If the function is activated, the **RIGHT** and **LEFT** function of the **594** transmitters will command short movements which will allow easy orientation of the sun protection. With **593** trasmitter you must press briefly twice **STOP** than press **UP** or **DOWN**. The command can also be given by any buttons connected to the module; to use the function, press a button (less than 0.5 sec), then press it again and hold it until you reach the desired orientation. The factory sets the function to inactive.

**A** — Bring motor to an intermediate position

**B** — In the case of 10 channels trasmitter select the correct radio channel.
01. Bring the motor on the intermediate position.
02. **By trasm. 594:** press **MENU** for about 5 seconds. **rS** appears on the display
**By trasm. 593:** while press **STOP** also press **PROG** for about 1 sec., until the LED lights up.
03. **By trasm. 594:** press 1 time **PREV** and 2 times **NEXT**. 12 appears on the display
**By trasm. 593:** press 1 time **UP** and 2 times **DOWN**.
04. Press 1 time **STOP**. The receiver signals the current value.
Example: if the parameter value = 4: ▲ 4 (4 short upward movements)
05. **By trasm. 594:** using **PREV** and **NEXT** to set the new value (from 1 to 5. 1 is inactive. Factory set 1).
Example: for parameter = 4: (0 time PREV) - 4 times NEXT
**By trasm. 593:** press **DOWN** the number of times equal to the desired setting (from 1 to 5. 1 is inactive. Factory set 1).
06. Press 1 time **STOP**. The receiver signal the new value.

| N° of movements | 1 | 2 | 3 | 4 | 5 |
| --- | --- | --- | --- | --- | --- |
| Duration of orientation movement | inactive | 50 msec | 100 msec | 150 msec | 200 msec |

**NOTE:**
✓ If you try to set «Orientation time» greater than level 5, the value is rejected and the motor makes 2 short movements down.
✓ If you want to stop the procedure, press briefly the **MENU** button of transmitter.
✓ When «Orientation time» is set on level 1 (inactive), if you command the orientation movements by transmitter or by command buttons, the motor will not move.

**Ⓢ STAFER**

STAFER S.p.a. – via Malpighi, 9 - 48018 Faenza (RA) ITALY
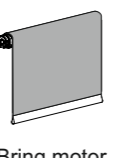Tel. (+39) 0546.624811 - Fax. (+39) 0546.623141

All products and technical specifications given in this document are subject to variation without notice. Unless previously and specifically authorised by STAFER, the device must be used exclusively with transmitters produced by STAFER. STAFER cannot be consider responsible for damage caused by improper, incorrect or unreasonable uses. STAFER shall not be liable for damage resulting from improper, incorrect or unreasonable use.

## 10. "AIR CHANGE" FUNCTION

This feature is especially useful if you want to identify a preferred position of the roller blind. Recalling the intermediate limit switch function by a stored portable transmitter, a complete operation of descent is carried out and, elapsed the work time, an upward movement is carried out whose duration can be set via this parameter.

**A** — Bring motor to an intermediate position

**B** — In the case of 10 channels trasmitter select the correct radio channel.
01. Bring the motor on the intermediate position.
02. **By trasm. 594:** press **MENU** for about 5 seconds. **rS** appears on the display.
**By trasm. 593:** while press **STOP** also press **PROG** for about 1 sec., until the LED lights up.
03. **By trasm. 594:** press 8 times **NEXT**. 08 appears on the display.
**By trasm. 593:** 8 times **DOWN**.
04. Press one time **STOP**. The receiver signals the current value. Example:
if time = 2 sec: ▲ 2 (2 short upward movements)
if time = 5 sec: ▲ 5 (5 short upward movements)
05. **By trasm. 594:** using **PREV** and **NEXT** to set the new value:
for time 3 sec: 0 times **PREV** and 3 times **NEXT**
**By trasm. 593:** press **DOWN** the number of times equal to the desired setting.
06. Press 1 time **STOP**. The receiver signal the new value.

| N° of movements | 1 | 2 | 3 | 4 | 5 | 6 |
| --- | --- | --- | --- | --- | --- | --- |
| AIR CHANGE | inactive | 2 sec | 3 sec | 4 sec | 5 sec | 6 sec |

**NOTES:**
✓ If you try to set «Air change» greater than level 6, the value is rejected and the motor makes 2 short movements down.
✓ When «Air change» is set on level 1 (inactive), if you recall the intermediate limit switch by transmitter, the motor will not move.
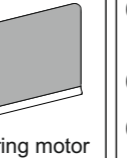
## 11. RESET

⚠ This procedure restores the receiver to the default conditions (factory settings). This procedure must only be carried out by qualified technical staff. Having carried out the reset procedure, the qualified technician must promptly carry out all the installation operations described at section 03. FIRST INSTALLATION

### 11A. RESET USING A MEMORIZED TRANSMITTER

✓ Select, on the transmitter, the radio channel that controls the device you want to reset.
✓ Make sure that this radio channel controls **only the device you want to reset.**

**A** — Bring motor to an intermediate position

**B** — In the case of 10 channels trasmitter select the correct radio channel to be resetted.
01. Bring the motor on the intermediate position.
02. **By trasm. 594:** press **MENU** for around 5 seconds. **rS** appears on the display.
**By trasm. 593:** while press **STOP** also press **PROG** for about 1 sec., until the LED lights up.
03. **By trasm. 594:** press 2 times **PREV** and 9 times **NEXT**. 29 appears on the display
**By trasm. 593:** press 2 times **UP** and 9 times **DOWN**.
04. Press 1 time **STOP**. The receiver signals that it is ready for the memory reset (with visual or acoustic signals, see the receiver instruction manual); on the transmitter, all the leds and display segments come on intermittently for a few seconds.
05. **By trasm. 594:** press together **PREV** and **NEXT**
**By trasm. 593:** press together **UP** and **DOWN** for about 2 seconds
The receiver signals that the factory settings have been restored (1 moviment up and down).
06. Follow the instruction manual of the receiver to re-install the receiver.

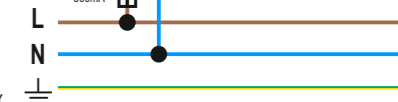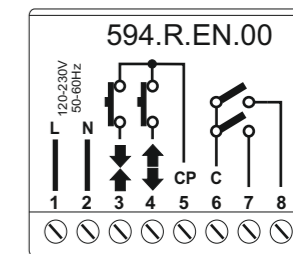### 11B. RESET USING THE BUTTON INPUT

✓ Switch off power supply to the module
✓ Connect as show in figure
✓ Switch ON power supply and wait 30 seconds until the motor makes 2 alternating movements, to indicate that factory conditions are restored.
✓ Switch off power supply to the module
✓ Restore the connections (see section 02. ELECTRICAL CONNECTIONS)
✓ Follow the instruction at section 03. FIRST INSTALLATION

594.R.EN.00

L N
120-230V 50-60Hz
CP C
1 2 3 4 5 6 7 8

FUSE 500mA
L
N
⚡ MAIN POWER SUPPLY

CE