



**OBLIGATORY
NORMS FOR
INSTALLATION
AND
MAINTENANCE
OF OSMO
EQUIPMENT**

CORRECT FIXING OF EQUIPMENT

REGULATORS

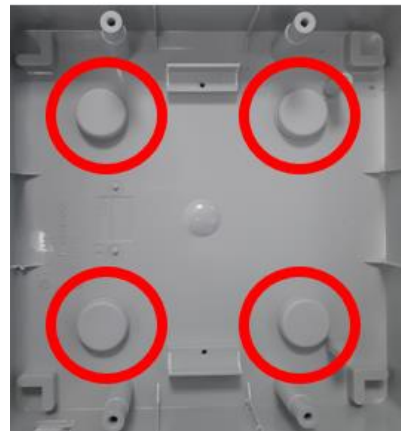
Fix the regulator to a smooth wall with the display at eye level.

The regulator has 4 holes on the rear side to be fixed to the wall.

Examples:



To prevent entering moisture, **place the four plugs (included)** in the fixing holes from inside the box and isolate the regulator as best as possible.



The regulator comes with the holes for the cables already made with their railings and/or stuffing nuts.

In no case make holes in the regulator box much less on any side or on the top of the box.



CORRECT FIXING OF EQUIPMENT

MOTORS

The motor must always be fixed on a wall of the farm

The chassis is provided with 4 fixing holes on the back side.

The fixing is to be done with appropriate screws and plugs (not included).



To avoid any deformation of the chassis,
the fixing area of the motor must be in contact with the wall throughout all its surface.



Avoid fixing the motor in a damp place or where there is the possibility of pouring any liquid onto it. If it cannot be avoided, **protect it as much as possible** (with an awning, or with some additional protective housing, for example)



INSTALLATION AND CONNECTIONS

General connection rules for cables

Turn off the regulator before making any connection and disconnection.

Remember: before turning off the regulator, you have to **switch it to MANUAL mode** to avoid losing steps while the motor is moving.

1. MANUAL MODE

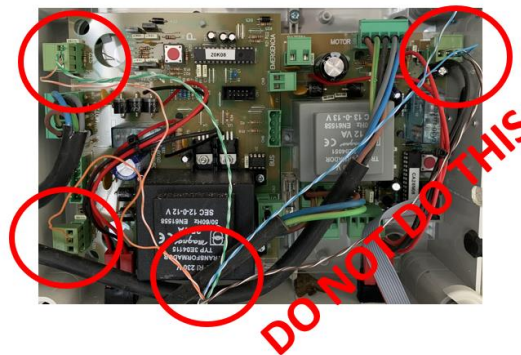


2. OFF

It is obligatory to use multiconductor flexible sheath



NEVER use separate conductors.



NO

DO NOT pass the multiconductor sheath near heat sources.

DO NOT SHARE tube or channel protection of multiconductor sheathes connecting OSMOEUROPA equipment with other multiconductor sheathes carrying energy (230 V / 400 V).

Do not connect the multiconductor sheath to any terminal until the installation is completed and the connectors are placed on both ends.

INSTALLATION AND CONNECTIONS

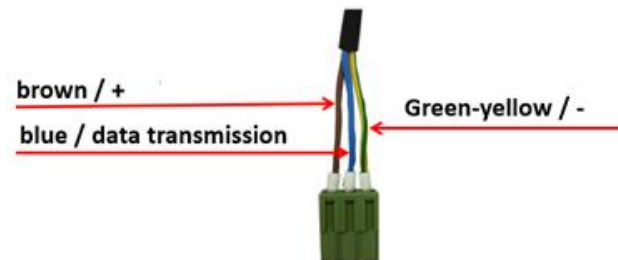
Connection of the digital temperature probe with the regulator

The correct position of the probe is vertical and upwards

Do not remove the probe flanges to maintain the position and thus prevent breakdowns due to water condensation.



Before making any connection between the regulator and the temperature probe **make sure the correct position of the cables** to prevent malfunctioning of the equipment and even breakage of it.



In new farming facilities put the temperature probes with shielded cable to avoid radio disturbances that affect the quality of the transmitted signals.



In farming facilities with no-screen cables installed for the temperature probes, put the filters that OSMOEUROPA has designed for the temperature probes to solve the interferences that cause erroneous signal readings.



Do not connect the multiconductor sheath to any terminal until the installation is completed and the connectors are placed on both ends.

INSTALLATION AND CONNECTIONS

Connection of the motor with the regulator

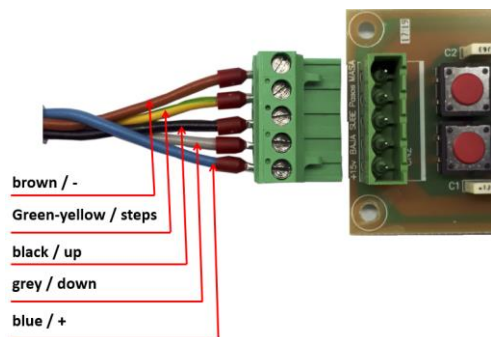
The modification of the multiconductor sheath must be carried out by an electrician authorised for such electrical installations.

Before making any connection between the regulator and the motor

make sure of

the correct position of cables

to avoid incorrect operation of the equipment and even the breakage of it (electronic board, microchip, etc.).



The cables that OSMOEUROPA uses for its equipment are standardised and can be purchased from your usual supplier of electrical equipment, with the necessary length

as long as they meet

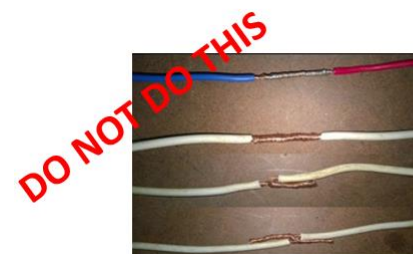
minimum specifications

of the indicated number of wires and their thickness:

CONNECTION	WIRES	THICKNESS / WIRE
CABLE REGULATOR-MOTOR / OFA	5	1 mm ²
CABLE PROBE-REGULATOR	3	0.5 mm ²
CABLE EXTERNAL BATTERY BOX - MOTOR	4	1 mm ²

Avoid extending the multi-conductor sheath by joining several wires together, since they have a risk of moisture penetration that can cause damage to the equipment.

If this extension is unavoidable, **use connection terminals** mounted individually or in connection blocks or strips and **always inside connection boxes** except when they are inside a protective channel.



Do not connect the multiconductor sheath to any terminal until the installation is completed and the connectors are placed on both ends.

HOW TO AVOID VOLTAGE DROP OR OVERLOAD OF THE BATTERIES

Any type of installation

Revisar las baterías internas anualmente para asegurar un correcto funcionamiento. If the batteries do not have an adequate charge, it is very possible that the regulator begins to show signs of failure in the motor (blockage, loss of steps etc.) A battery has an average lifetime of 2 years, as long as its maintenance has been appropriate. Check internal batteries annually to ensure proper operation.



The Regulator must NEVER be switched off and / or disconnected from the Motor or External Battery Box.

(except for equipment connections / disconnections)

If it's been done, the internal batteries will no longer charge and will be discharged to deterioration.

If the REGULATOR is temporarily not being used

(for example, during farm cleaning),

it must be left in MANUAL mode.

The electricity consumption of the regulator is very low.

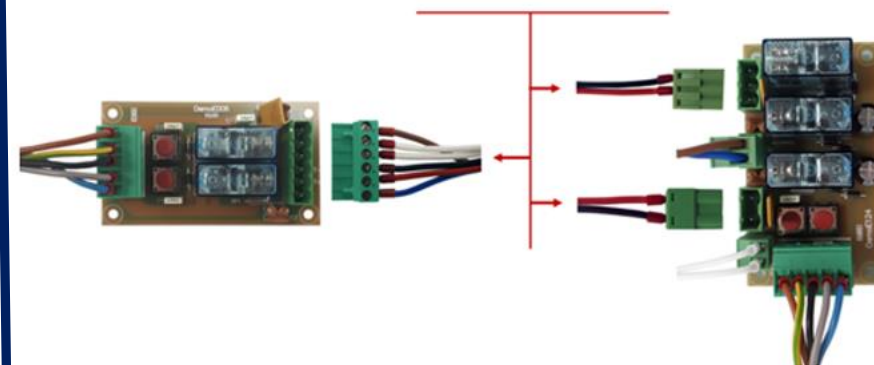
THE REGULATOR CONSTANTLY CHARGES THE BATTERIES

If the installation is not going to be used for a long time

and there is no other choice but to disconnect the regulator,

make sure to disconnect the battery connectors from the Motor Control Circuit:

DISCONNECTED BATTERIES'S CONNECTORS

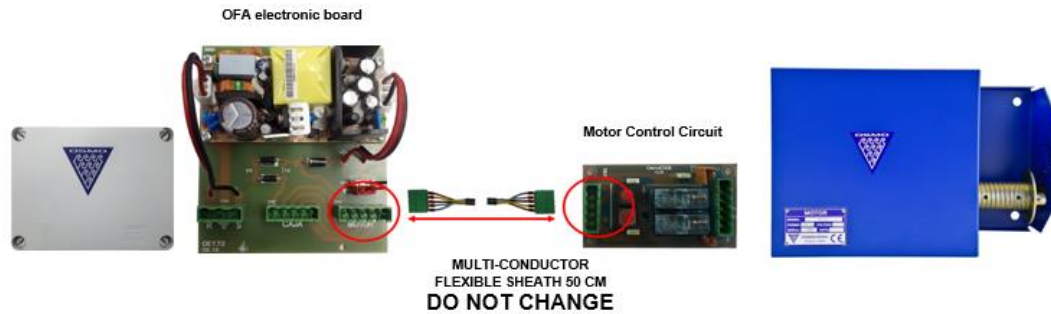


HOW TO AVOID VOLTAGE DROP OR OVERLOAD OF THE BATTERIES

Installtions with OFA Power Supply Unit

The OFA power supply unit is provided with the 50 cm long multi-conductor flexible sheath.

IN NO CASE modify the length of the sheath, this could cause an excessive voltage drop

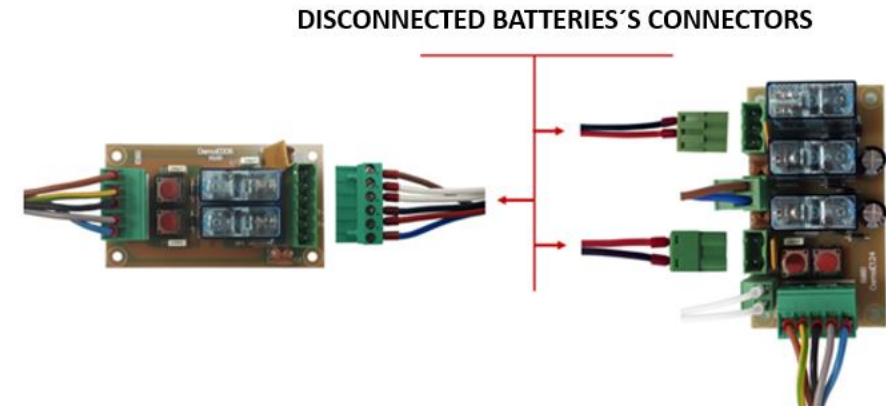


OFA power supply unit constantly charges the batteries

If the installation is not going to be used for a long time

and there is no other choice but to disconnect the OFA,

make sure to disconnect the battery connectors from the Motor Control Circuit:



HOW TO AVOID VOLTAGE DROP OR OVERLOAD OF THE BATTERIES

Battery overcharge prevention

Overcharging the batteries causes their anticipated wear

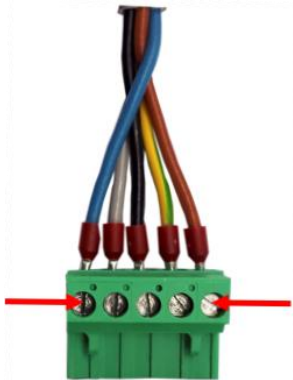
Before proceeding to connect the equipment,

use the multimeter to

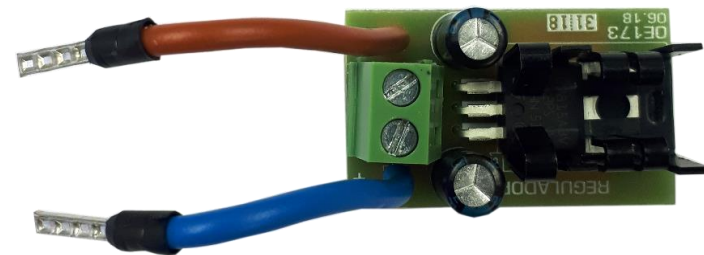
measure the voltage between the brown and blue wires

in the 5-wire multi-conductor flexible sheath

that comes from the corresponding Regulator installed and turned on.



If the charging voltage of the batteries exceeds 14 V,
it will be necessary to install the charge controller on the Motor Circuit Control:



HOW TO AVOID VOLTAGE DROP OR OVERLOAD OF THE BATTERIES

**Installations without 230V mains
and without inverter transformer at 230V
(with the generator set or solar panels):**

Backup battery charger

has to be 10% of the total Amperage of the backup battery.

See the table of calculations for the number of motors.

Number of motors	Backup battery	Backup battery charger
1 motor	90A	9Ah
2 motores	140A	14Ah
3 motores	210A	21Ah
4 motores	280A	28Ah

**If the charger does not match the exact 10%,
opt for Amperage close to greater than 10% required.**

In no case

Charger Amperage may be lower or higher
significantly 10% of the battery support.

HOW TO AVOID VOLTAGE DROP OR OVERLOAD OF THE BATTERIES

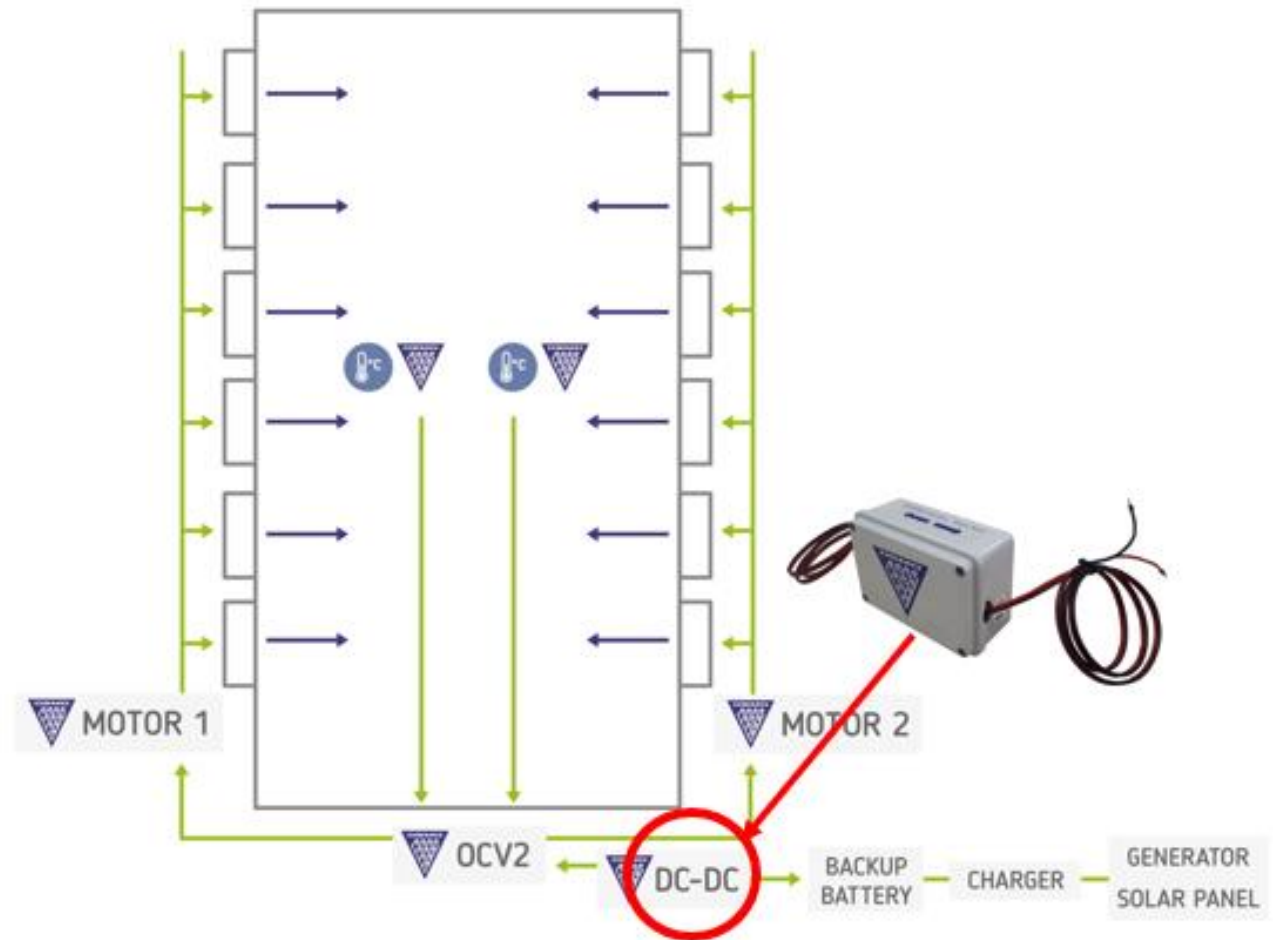
**Installations without 230V mains
and without inverter transformer at 230V
(with the generator set or solar panels):**

INCLUDE DC / DC CONVERTER

between the OSMO regulator and the backup battery, which will stabilise the correct charge and extend the lifetime of the batteries.

IT IS MANDATORY:

**Charge the batteries
minimum 60 minutes a day (no less),
turning on the generator**



REQUIRED MAINTENANCE

Any type of installation

Dirt increases friction on motor's elements and
it can cause early wear.

Do not grease the towline,
as it accumulates dust forming mud and
making it difficult to function properly.

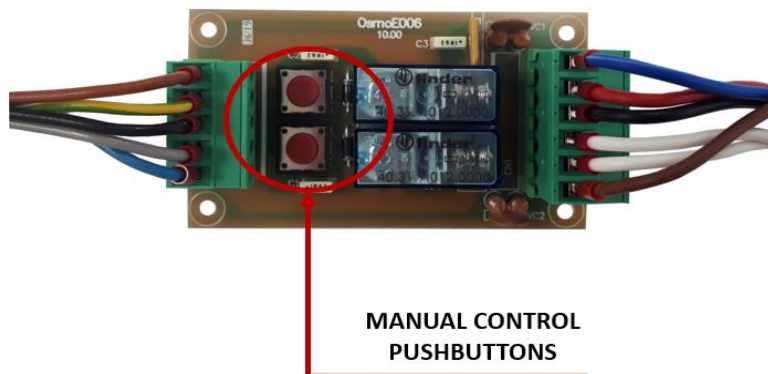
Clean the installation of accumulated dirt
on the windows and on the lifting system
on regular basis.



WRONG EQUIPMENT HANDLING

How to use the pushbuttons on the Manual Motor Control Circuit

Inside each OSMO Motor or the External Battery Box, **there is a Manual Motor Control Circuit with the UP and DOWN buttons**, which are able to move the motor independently of the regulator **ONLY IN CASE OF FAILURE**



DO NOT USE THEM: the manual control circuit to move the motor while the regulator is in automatic mode and working properly. If you do, the number of centimeters of towline that the motor has wound will have varied, and the regulator will NOT have detected them, which will cause the loss of the limit switch and, consequently, a serious failure due to this desynchronization.

DO NOT USE THEM
WHILE THE REGULATOR
IS IN AUTOMATIC MODE

They should ONLY be used when the regulator fault blocks the system and the problem cannot be solved through the regulator.

REPROGRAMME the regulator after having used the pushbuttons of the manual control circuit,
setting again the limits of the maximum and minimum initial travel.

WRONG EQUIPMENT HANDLING

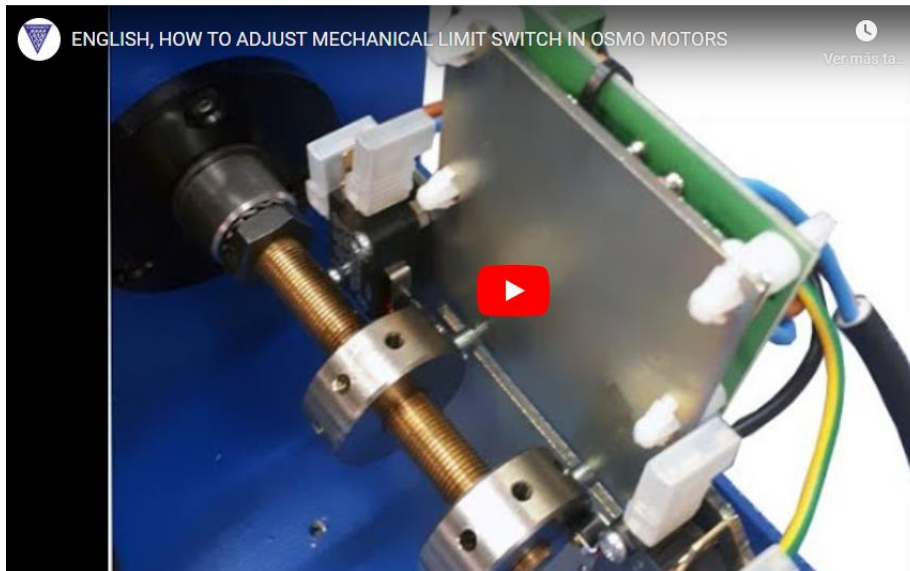
Mechanical limit switches in the motor

The mechanical limit switch will act as a safety system in the event of any anomaly produced in the electronic limit switch (cuts of conductive cables, short circuits, programming defects ...) **preventing the breakage of the towline or the windows**

THE ADJUSTMENT OF THE MECHANICAL LIMIT SWITCHES IS TO BE DONE at the same time as the programming of the electronic limit switches in order to synchronize the route of the windows.

Watch the video on www.osmoeuropa.com:

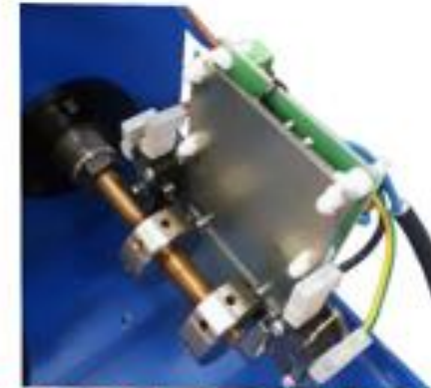
[Home](#) / [INSTRUCTION MANUALS](#) / [INSTRUCTIONS FOR MOTORS](#)



IN NO CASE

change and / or remove the mechanical limit switch or its components.

May cause desynchronization between electronic and mechanical limit switches and wrong operation.



DO NOT CHANGE

OSMO



**COMPLIANCE WITH THE NORMS:
GUARANTEE OF
DURABILITY AND SAFETY**



SAFETY FOR ANIMALS

www.osmoeuropa.com