

UNIMOT 120 USER MANUAL



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1) Motor installation in the tube

- a) Introduce UNIMOT 120 from its output shaft inside the adaptation flange for limit switch ring; check keyway alignment with adaptation flange.



Insert the keyway in adaptation flange to the end; a certain backlash between the two parts is normal and acceptable.



- b) Pull out the coil pin from motor output shaft.



- c) Insert motor output shaft inside driving front flange; block axially the flange using the coil pin.



- d) Introduce the motor with its flanges inside winding tube and fix both flanges with 6 M6 screws placed every 60°.
- e) Prepare the fixing support for assembling the complete winding roller on the post; pull out the pin and mount the metallic adaptation plate on motor head using 4 M6 screws. Fix the other support plate on the post.

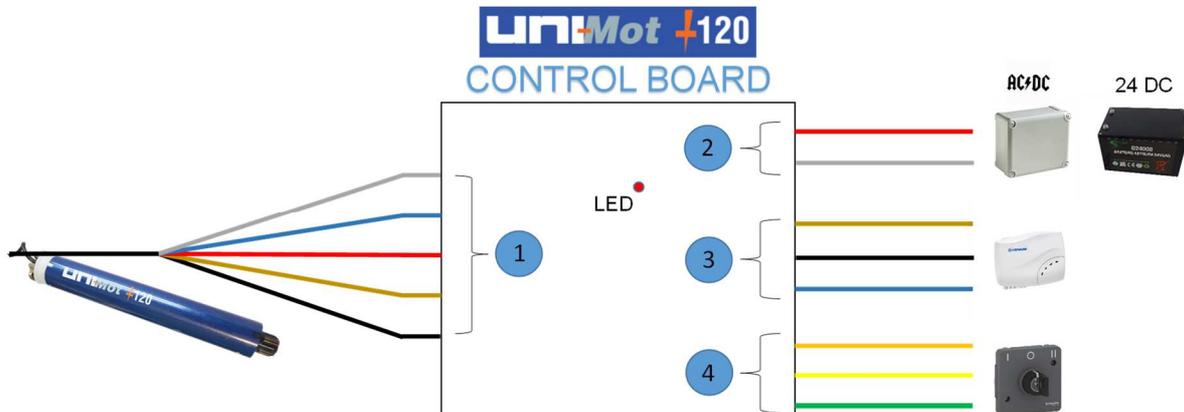


ATTENTION : Motor head has to be fixed in a way that electric cable is positioned toward the lower part of the roller, facing the ground.

- f) Install the winding roller and the cover on the posts and add the pin on motor head to avoid axial movements.

2) Electronic board cabling

a. Board connection electric schema



Ref. 1 : 24 V DC power feed for the motor and limit switches management for the motor

Ref. 2 : 24 V DC power battery or AC/DC converter

Ref. 3 : Dry contacts for electrolyzer or other external devices

Ref. 4 : Three contacts control key or remote control

b. Board electrical cabling

Unimot electronic control box is supplied with cables necessary for the connections to other components needed to drive the pool cover.

The board has to be installed and fixed inside the post before connecting it to the other systems. Alternatively it can be installed also in the technical room.

Cables are organized with a precise logic; on one side of the board one can find connection cables for Unimot motor. On the other side are placed the cables needed to connect the motor to the other systems for managing and controlling it.



Note: PLEASE CONNECT DC POWER SOURCE AT LAST (grey and red cables).



Note: DO NOT INVERT POWER FEED POLARITY; THIS MAY DESTROY THE BOARD (connect red cable with 24V+ and grey cable to 24V-).

Cabling instructions:

Motor side (Ref. 1) :

- | | |
|---|--|
| ■ Grey cable: 24V DC power pole - | connect to its corresponding cable on Unimot |
| ■ Blue cable: Limit switch A | connect to its corresponding cable on Unimot |
| ■ Red cable: 24V DC power pole + | connect to its corresponding cable on Unimot |
| ■ Brown cable: Limit switch B | connect to its corresponding cable on Unimot |
| ■ Black cable: common ref. for limit switches | connect to its corresponding cable on Unimot |

Management side (Ref. 2 and 4):

- | | |
|--|--|
| ■ Red cable: 24V DC power pole + | connect with pole + on DC source |
| ■ Grey cable: 24V DC power pole - | connect with pole – on DC source |
| ■ Orange cable: Contact key position « Neutral » | connect to its corresponding on the key switch |
| ■ Yellow cable: Contact key position « Open » | connect to its corresponding on the key switch |
| ■ Green cable: Contact key position « Close » | connect to its corresponding on the key switch |

a. Auxiliary contact function

Auxiliary contact function can be used to communicate to external systems what is the actual status of the cover; more precisely, it is possible to permanently know if the swimming pool is opened / closed or moving.

This function is implemented with two dry contacts fed by 24V DC current.

Here follows the relevant cabling schema (Ref: 3):

- | | |
|--------------------------------|--|
| ■ Brown cable: dry contact B | connect to external intelligent system |
| ■ Dark cable: common reference | connect to pole – of 24V DC source |
| ■ Blue cable: dry contact A | connect to external intelligent system |

In order to detect if dry contact A is linked to closed or opened cover position, please refer to next chapter related to limit switch setting.

In fact motor installation can be done in the left or in the right post. Depending on this choice DC polarities and rotation direction have to be inversed in order to correctly wind and unwind the cover.

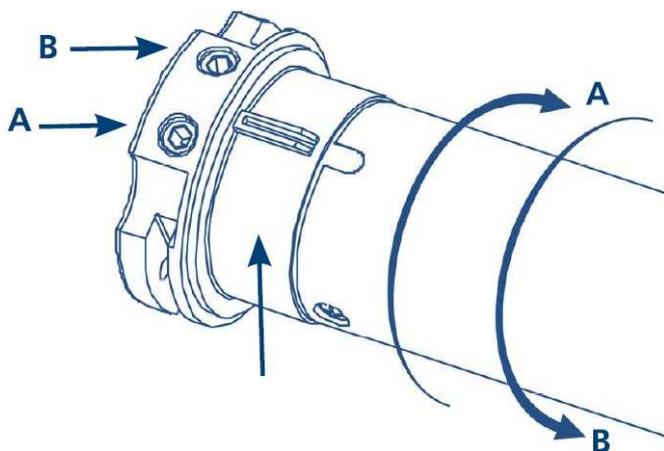
3) Limit switch setting procedure

Unimot 120 is equipped with an electro-mechanical limit switch system, stopping the motor when cover reaches the end of its stroke.

To set and tune these two limit switches the user has to screw the hexagonal nuts placed on the head of the motor.

- 1) In order to understand which of the screws has to be used, the operator needs to feed the motor in the two directions observing which is the rotation direction of the limit switch ring indicated by the arrow in the picture below. If the ring is rotating in A direction the A hexagonal nut has to be used to set the limit switch for this rotation direction; use nut B for the opposite direction.
- 2) Power on the motor in the direction for which you want to set limit switch. After a few revolutions the motor will reach the factory preset limit switch position and stops.
- 3) Rotate progressively hexagonal nut in direction + and, by feeding the motor, verify, what is the new limit switch position. After a few iterations the needed position for the cover will be reached.
- 4) Reverse rotation direction and set the other limit switch by using the same procedure.

Note: Hexagonal setting nuts have a maximum range of 30 output shaft revolutions; if the cover needs more than 30 revolution to reach the two limit positions, limit switch function can't be used for that cover.



- 5) Apply protecting cap onto motor head



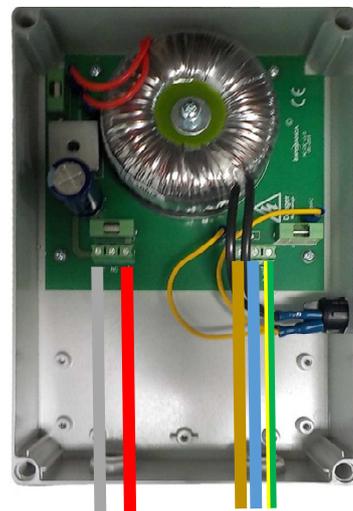
4) AC /DC Converter cabling schema (option)

AC/DC converter is just a power box converting 220V AC current into 24V DC stabilized current. You need to have a 220 V AC power cord in case.

If you bought this optional board please follow cabling schema below:

- Grey cable: 24V DC power pole -
connect to its corresponding cable on Unimot Control board (ref. 2)
- Red cable: 24V DC power pole +
connect to its corresponding cable on Unimot Control board (ref. 2)
- Blue cable: Power cord phase 1
- Brown cable: Power cord phase 2
Green and Yellow cable: Power cord ground

AC/DC CONVERTER

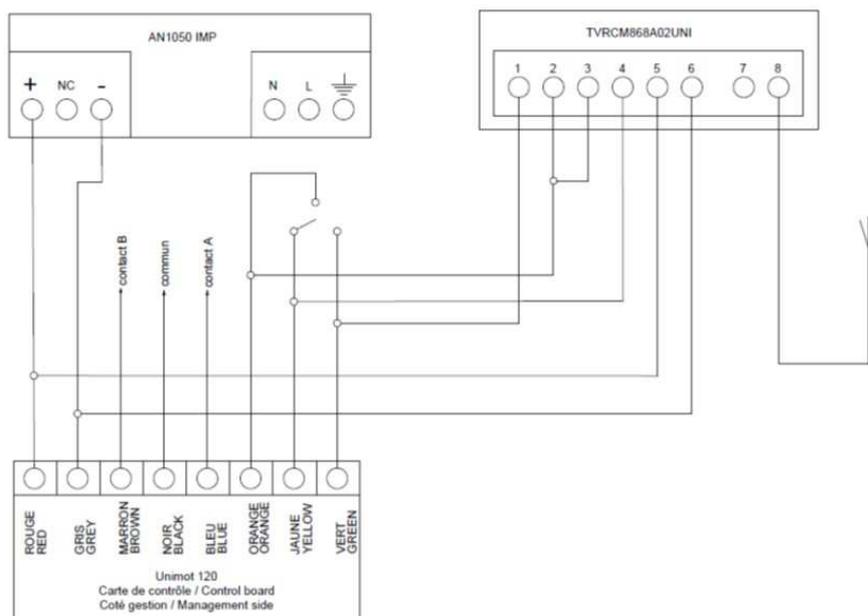


5) Remote control cabling schema (option)

The following cabling schema is valid for TVRCM868A02UNI receiver board and AN1050 IMP.

Cable colors refer to Unimot Control Board cabling schema (pag.5): Ref. 2 and 4.

Connections can be done in parallel with other devices; wires 5 and 6 can be connected with any 24V DC source available (batteries, etc.).



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