

INSTALLATION AND CONNECTIONS

The motor controller is fixed to the wall with just 3 external screws.
Make three holes in the wall following the printed cutout template at the bottom of the cardboard box.

Use the supplied screws and wall plugs.

Cut the cable glands located at the bottom of the case and introduce through them the wiring tube into the case.

Connect the power supply, motor and device cables in the appropriate terminals as indicated in the printed circuit board. See fig. 1-10

Configure the operating mode using the DIP SW. See fig 1-6

Program the maneuver and automatic cycle times. See fig. 1-3

Activate the power supply and the ON Led will switch on. See fig.1-1

SMINN MOTOR CONTROLLERS ARE EQUIPPED WITH A LED TO LET KNOW IF THE DEVICE IS POWERED.

Check that the limit switches, the beam and the safety edge are working through the LED associated with each one of these inputs. See figure 1.8.

Make sure the safety edge is not activated when the door/shutter is fully closed.

If possible, install the limit switches to work before the safety edge.

Press the TEST button (fig.1-7) to start the opening maneuver. If the motor does not start up, maybe the motor connection is reversed.

IMPORTANT SAFETY INSTRUCTIONS FOR USAGE

- Keep the controller out of the reach of children.
- Observe that there are not objects or people in the way when the gate is moving.
- If you detect a malfunction of the system, call IMMEDIATELY the technical service. You must not use the mechanism as it can cause damages.
- You must take precautions when handling the gate manually (unblocked) because it can move without control, due to its own weight, the state of fixing points, springs and counterweights.

MOTOR CONTROLLER USAGE RESTRICTIONS

Operation is not guaranteed when installed in different equipment than the specified one.

THE USAGE INSTRUCTIONS OF THIS DEVICE SHALL BE HANDED TO THE USER, WHO WILL HAVE THEM IN THEIR POSSESSION. IF THEY ARE MISLAID, THE USER CAN ASK FOR A COPY OR DOWNLOAD IT DIRECTLY FROM THE WEBSITE WWW.SMINN.COM

The manufacturer reserves the right to change the specifications of these systems as well as this manual without prior warning. The equipment must be manipulated only by specialized and/or skilled personnel.

WARRANTY

This product has undergone a complete TEST during its manufacturing process that guarantees its reliability and proper operation. The manufacturer provides 24 months of warranty to the product from the date printed in the product and against any anomaly that it may present in its appearance or operation.

Any damage caused by third parties, natural causes (flooding, fire, lightning, etc), arising from improper handling or installation, vandalism or any other cause non attributable to the manufacturer will void the warranty. The warranty only covers repairs or replacement of the damaged device, excluding of the warranty any expenses derived from assembling, travelling, transport, natural wear of parts, etc., and, in general, any expenses that are not part of the repairs or replacement of the damaged element of the system are excluded.

The installer/provider will ask the manufacturer for a RMA number or authorization for transport of the system in warranty. Without this previous requisite, the manufacturer will not be able neither to process nor provide warranty service.

WARNING

This product must be used in installations which has been conceived for, considering any other as improper use. The packaging must not be dumped in the environment. Keep products, packaging, wrapping, documentation, etc., out of the reach of children. Follow the current local, national or European regulations. The information contained in this document may have some mistakes that will be corrected in future editions. The manufacturer reserves the right to modify the contents of this document or the product without any prior warning.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

In accordance with the European Directive 2002/96/EC about waste electrical and electronic equipment (WEEE), the presence of this symbol (see symbol at the bottom of this text) in the product or in the packaging, means that this article shall not be disposed in local non-classified waste streams.

It is the user's responsibility to dispose this product taking it to a collection point designed for waste recycling of electrical and electronic devices. The separate collection of this product helps optimizing the waste sorting and recycling of any recyclable material and also decreases the impact on health and the environment. For more information about the correct wasting of this product, please contact the local authority or the distributor where you acquired this product.

CE DECLARATION OF CONFORMITY

The company
ELSON SISTEMAS, S. L.
Pol. Torrelarragoiti, P6 - A3 - 1ª
48170 Zamudio - Vizcaya (SPAIN)

Declares:

The product: BOX M-CM1 Motor Controller

Manufactured by ELSON ELECTRÓNICA, S.A.

Under the trademark: **SMINN**

For use in: Residential, commercial or light industry environments.

This device meets the provisions contained in the article 3 of the R&TTE 1999/05/CE Regulation, as long as its usage is compliant to what was envisaged, having applied the following regulations:

Telecommunications: EN 300 220-1 v1.3.1 (2000-09)
EN 300 220-1 v1.1.1 (2000-09)

Electromagnetic compatibility: 2004-108-CE

Low tension: 2006-95-CE

Zamudio, 2011.03.30

José Miguel Blanco Pérez
Chief Technical Officer

SMINN

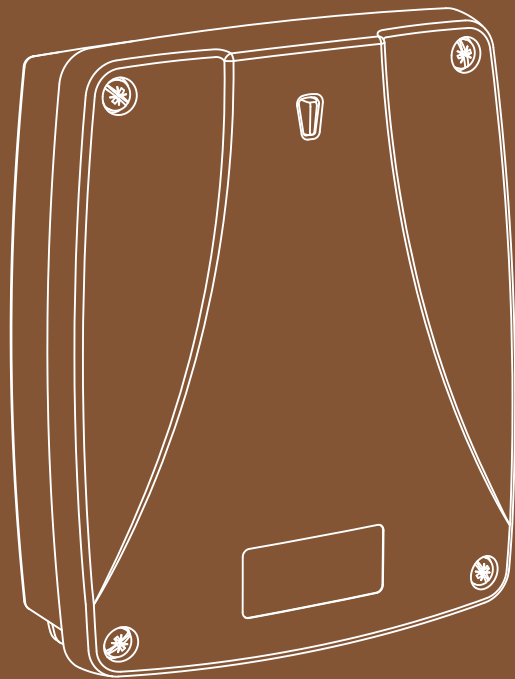
innovative in electronics

T. +34 944 525 120
www.sminn.com
info@sminn.com
Pol. Torrelarragoiti, P6 A3 - 1ª
48170 Zamudio Bizkaia
SPAIN

BOX M CM1

UNIVERSAL MOTOR CONTROLLER

INSTRUCTION MANUAL



SMINN

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DESCRIPTION

Control panel for single-phase motors up to 0.75 hp at 230VAC and for three types of garage doors: sliding, sectional and roller blind.

Easy selection between four operating modes: Automatic, semiautomatic, alternative and dead-man.

Maneuver control via optocoupled inputs for light barriers and buttons.

Current output for peripherals and test control of lightbarriers all protected with resettable fuses.

It incorporates an auxiliary relay for activating courtesy light, preflash and garage light.

These devices are built using high quality materials and the latest technology.

They are devices that observe the current regulations for usage in residential, commercial and light industry environments.



OPERATION

Once the motor controller is properly installed and configured, it will initiate the maneuver with each operation request (press) received via radio, by pressing the test button or the activation of LL1 input. The controller will stop the maneuver if the adequate limit switch activates or if any security is activated.

OPERATING MODE

The box has four easily selectable modes using the options selector (see figure 1-6):

- AUTOMATIC:

After a complete opening, this mode allows automatic closing of the door once the time assigned ends in the C.AUTO TIME potentiometer. It is selected putting the DIP1 - AUTOMATIC CLOSING at ON (Up).

- OPTIONAL AUTOMATIC CLOSING:

This option will allow users to override the automatic wait of the cycle in the automatic closing with just a press. It is selected putting the DIP1 - AUTOMATIC CLOSING at ON (Up).
DIP2 - AUT. OPTIONAL at ON (Up)

- SEMIAUTOMATIC (Alternative stop)

This mode allows to stop the maneuver as follows: Starting with the door closed, a request opens the door, another requests stops the maneuver (STOP) and another one closes the door if the maneuver time has been overtaken or opens it if it still in maneuver time. It is selected putting the DIP3 - ALTERNATIVE STOP at ON (Up)

- DEAD MAN

This mode only allows the door to move while the LL1 or LL2 inputs are active. It has two operation modes:

1.- Dead-man in both opening and closing:

A request in the LL1 input will open the door automatically and the LL2 input will make the door close while it is hold. In this mode only takes into account the safety SEC that stops the maneuver. It is selected putting the DIP4 - DEAD MAN at ON (Up)
DIP3 - ALTERNATIVE STOP at OFF (Down)

2.- Dead-man in closing with semiautomatic opening:

A request in the LL1 input will open the door automatically and the LL2 input will make the door close while it is hold. This mode only takes into account the safety SEG and the safety opening with the LIGHTBARRIER 2 (if selected). It is selected by putting the DIP4 - DEAD MAN at ON (Up)
DIP3 - ALTERNATIVE STOP at ON (UP)

In both dead-man modes the following settings are automatically deactivated: AUTO CLOSE, OPTIONAL AUTO, ALTERNATIVE STOP, BEAM TEST and PREFLASHING

MANEUVER CONTROL

It controls the motion of the door using the received signals terminals 10 to 19.

Activation maneuver inputs (LL1, LL2)

- LL1- Input for button in automatic/semiautomatic/dead-man (open) modes.
- LL2- Input for button in dead-man mode (close).

Light barriers (BND, SEG)

Normally closed contact inputs to detect obstacles in the scope of the door.

The safety edge input (BND) can be configured in two ways:

- Configuration as safety edge (BAND) in opening and closing:

DIP5 - BAND / PHOTOCCELL2 at OFF (Down)

This mode stops opening and inverts the maneuver for two seconds or stops closing and inverts until the door is open. The motor controller automatically detects a band of 8K2R or two parallel 4K1R ones.

- Configuration as light barrier in opening: DIP5 - BAND / PHOTOCCELL2 at ON (Up)

In this mode the controller stops opening and inverts until the door is closed..

The light barrier input (SEG) stops the opening operation and inverts completely the maneuver.

Limit switches (FCA / FCC)

NC inputs to detect the opening and closing ending. When the controller detects one of these inputs OPEN it stops the motor (STOP) and resets the operating time.

External limit switches (FC-AUT)

Using this JUMPER the controller detects the opening of the external limit switch of a coaxial motor, stopping and resetting the operating time.

Light barrier test

With this option selected, the controller performs a light barrier test connected to SEG and to the safety edge / second light barrier connected to BND before starting a maneuver.

If the controller encounters any problem it will switch to dead-man mode automatically.

Peripheral power

This connection allows us to power external devices such as light barriers. It is protected with a load limiting resettable fuse.

Garage light / courtesy lamp

The controller has an auxiliary relay with voltage free contacts (No. 6 and 7) to activate garage light or courtesy (preflashing) light of 100W max. at 230VAC. DIP8 - OFF (Down) select garage light, 2 sec. relay pulse.
DIP8 - ON (Up) COURTESY LIGHT selected, relay activated for 90 sec..

Pre-flashing lamp

This mode will emit three flashes of light before starting the closing maneuver. DIP7 - ON (Up) PRE-FLASHING lamp selected.
DIP8 - ON (Up) COURTESY LIGHT selected.

Receiver card

The controller has a radio socket to connect an SMINN TRSH radio card that allows activation by remote control.

IMPORTANT INSTALLATION SAFETY INSTRUCTIONS

Before installing the controller you should:

- Check that the door / shutter is in good mechanical condition and well balanced.
- Remove from the surroundings anything that is not needed and turn off AC power.
- Install the motor controller at a minimum height of 1,5m, preferably next to the door.
- Use power and motor cables of enough gauge.
- Power the controller through a breaker / emergency switch that is easily accessible by the user.

European regulations for doors EN 12453 and EN 12445 specify the minimum protection and safety levels for doors installed in houses and community and public facilities.

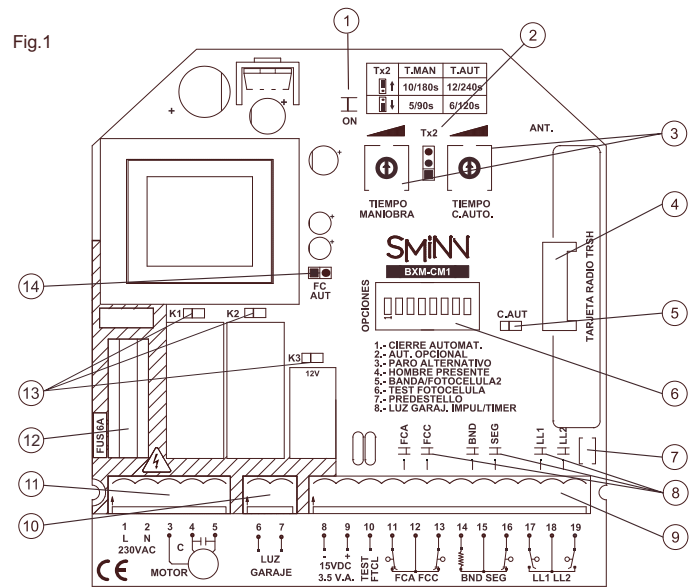
Collision with any object must be prevented or the contact force must be limited (security band), and in the case of automatic cycle, a presence detector must be used too (i.e. light barrier).

MODELS	Limit switches	Garage light	VDC Out	Light barrier test	Terminals		Transformer Power
					Normal	Plug-in	
BOX M CM1 / 20	-	-	-	-	YES	-	2.8W
BOX M CM1 / 22	-	-	-	-	-	YES	2.8W
BOX M CM1 / 30	-	-	YES	YES	YES	-	3.5W
BOX M CM1 / 32	-	-	YES	YES	-	YES	3.5W
BOX M CM1 / 34	-	YES	YES	YES	YES	-	3.5W
BOX M CM1 / 36	-	YES	YES	YES	-	YES	3.5W
BOX M CM1 / 50	YES	YES	YES	YES	YES	-	5W
BOX M CM1 / 52	YES	YES	YES	YES	-	YES	5W

TECHNICAL SPECIFICATIONS

Power supply	230V AC (125VAC Optional)
Motor power	0,75CV Single-phase
Optional cards	Radio receiver
Timings and safety edge control	Analog
Options' selector	Binary DIP SWITCH
Protection in output voltage	Automatic resettable fuse
Current output for peripherals	15VDC / 0.3A
Output for light barrier Autotest	0.1A Negative
Inputs for maneuver control	5 - Optocoupled (FCA/FCC-SEG-LL1/LL2) 1 - Analog (Resistive band)
Operating temperature	-20 ° C to +85 ° C Industrial range
Degree of permissible humidity	Up to 85% rh
Casing	ABS
Dimensions	185 x 145 x 65 mm
Watertight	IP54 (IP66 with cable glands)

Fig.1



COMPONENTS

- ON Led
- Time doubling switch
- Maneuver time settings
- Radio card socket
- Automatic cycle led
- Configuration Selector
- Test button
- Input status leds
- Peripheral inputs connector
- Garage light connector
- Power and motor connector
- 6A protection fuse
- Relay status leds
- Automatic limit switch selection switch

APPLICATIONS

