

BOX L MF2D

UNIVERSAL MOTOR CONTROLLER

For 2 motor sliding doors at 230VAC

INSTRUCTIONS MANUAL

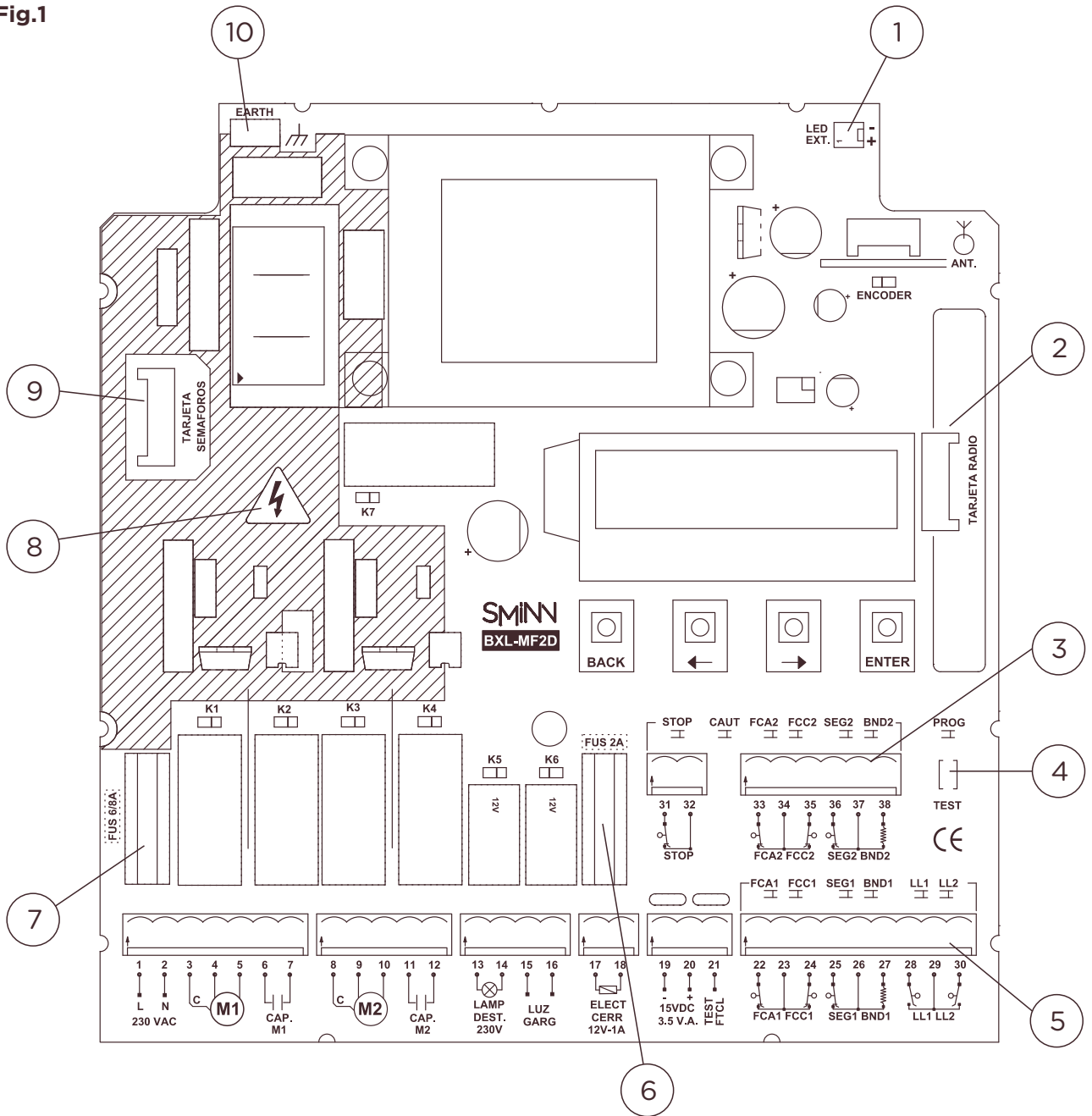


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COMPONENTS SITUATION

Fig.1












- 1. Box cover LED terminal
- 2. TRSH radio card slot
- 3. Gate 2 terminal strip
- 4. TEST start button
- 5. Gate 1 terminal strip

- 6. Electrolock fuse
- 7. Power fuse
- 8. High voltage zone
- 9. Semaphore card slot
- 10. Earth fast-on terminal

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Simbols

	Motor
	Capacitor
	Flash lamp
	Electrolock
	Safety edge
	Normally close contact
	Normally open contact
	Earth
	High voltage zone

FEATURES

The BXL-MF2D universal motor controller is designed to be part of a gate automation system for swing gates of one or two electromechanical or hydraulic 230VAC engines.

Among other features the motor controller provides:

- Control of 1 or 2 motors of 230VAC - 0.75CV max.
- Automatic activation of the motor relays and lights without spark.
- Independent connection terminals for motor capacitor.
- Independent regulation of the power applied to the motor both in startup, maneuver and stop.
- Quick maneuver learning to ease installation.
- Limit switches control.
- Independent terminals for light barrier and safety edge with safety test option conforming to regulations.
- Connection to electric lock, garage light (impulsive or latched) and beacon light.
- Two independent key inputs for complete and pedestrian maneuvers.
- Connection sockets for radio card and SMINN semaphore card.
- Status LEDs for all the inputs and outputs.
- Peripheral power output with resettable fuse.
- Optocoupled inputs with high electrical insulation.
- Intuitive menu using a keyboard and LCD that eases the configuration and maintenance of the panel.
- Ability to protect the configuration with a password.
- Storage of the number of maneuvers and security failures to ease the maintenance.

MOTOR CONTROLLER USAGE RESTRICTIONS

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

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.

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.

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

INSTALLATION

The motor controller is fixed to the wall with just 3 screws, all of them external. See fig.3

Make three holes in the wall following the printed cutout template at the bottom of the cardboard box.

Cut the cable glands located at the bottom of the case and pass through them the wiring tube inside the case.

See the IMPORTANT SAFETY INSTRUCTIONS FOR INSTALLATION.

Connect the power supply, motor and device cables to the terminals of the terminal strip as indicated in the printed circuit board. See fig 1.

After activating the power supply, the ON led will switch on . See fig.1

Set up the timings and configuration of the board.

IMPORTANT SAFETY INSTRUCTIONS FOR INSTALLATIONS

Before installing the panel 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 (VAC).
- 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 board through a circuit breaker or security switch that can be easily reached by the end user.

The 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 (safety edge), and in the case of automatic cycle, a presence detector must be used too (i.e. light barrier).

With the LED associated to each one of these inputs.

Check that the limit switches, and if installed, the light barrier and the safety edge, are all working. See fig. 1

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

Press the TEST button (fig.1) to start an opening maneuver. If the motor doesn't move its connection could be reversed. Correct it and repeat this step.

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

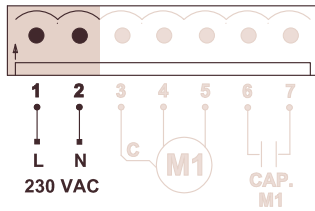
IMPORTANT SAFETY INSTRUCTIONS FOR USAGE

Once the controller is installed, as a prevention measure, the user must:

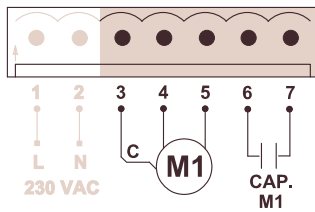
- Keep the controller out of reach of children.
- Observe that there are no objects or people in the way when the gate is moving.
- You must take precautions when handling the gate manually (unblocked) because it can move without control, due to its own weight, the state of fixing points, springs and counterweights.

If you detect a malfunction of the system, call IMMEDIATELY the technical service. You must not use the mechanism as it can cause damage.

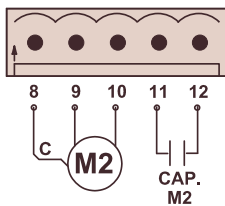
CONNECTIONS



The motor controller is powered with 230VAC 50Hz through terminals 1 and 2 and the ground connection is made in the FAST-ON connector located at the top left of the motor controller, marked EARTH.

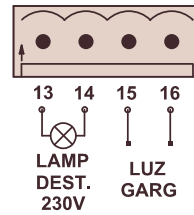


The motor controller can handle two AC electromechanical or hydraulic motor. **The 3, 4 and 5 terminals are used for motor connection of the first gate and the 8, 9 and 10 terminals for motor of the second gate.** The motor controller has specific terminals for a motor capacitor in case the motor needs it (terminals 6-7).

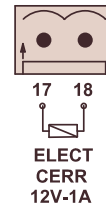


Si los motores no llevan condensadores incorporados utilizar los bornes 6 y 7 para el condensador del primer motor y los bornes 11 y 12 para el condensador del segundo motor.

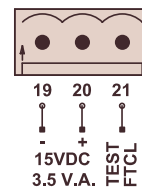
	Motor 1	Motor 2
Common	3	8
Open	4	9
Close	5	10
(Capacitor)	6	11
	7	12



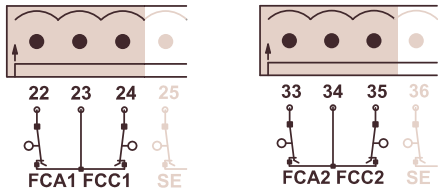
If desired, connect a 230VAC - 40W lamp in the terminals 13-14 to act as a maneuver beacon. It is also possible to activate the garage light or turn on a temporization device using the terminals 15-16.



Use the terminals 17-18 to connect a 12V 1A electric lock. The controller can be set to activate the lock when opening and has options like "Reversing stroke" and "Final stroke".



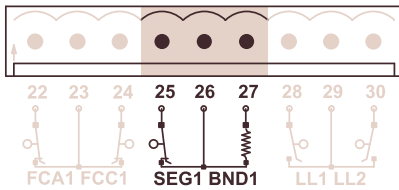
The board has a peripheral power output of 15VDC - 3,5VA in the terminals 19 and 20 protected with a resettable fuse designed to power devices like light barriers. Also, terminal 21 is used as an specific negative for light barrier test. According to regulations.



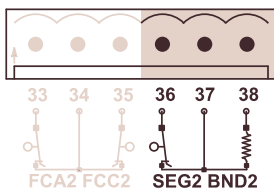
The board has specific inputs for opening and closing limit switches. The contacts are normally closed and have a shared common to ease installation.

Limmit switch	Motor 1	Motor 2
Open	22	33
Common	23	34
Close	24	35

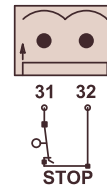
El motor distingue dos grupos de seguridades, las seguridades de cierre y las seguridades de apertura.



Use the terminals 25 and 26 to connect a light barrier and the terminals 26 and 27 to connect a safety edge (resistive or contact) for closing security.



Use the terminals 36 and 37 to connect a light barrier and the terminals 37 and 38 to connect any kind of safety edge (resistive or contact) for open security.



Los bornes 31 y 32 sirven para la conexión de un pulsador de emergencia tipo seta que detiene la maniobra e invierte en la siguiente maniobra.

Nota: Si no se utiliza debe estar puentado.



The radio socket can be used to connect an SMINN radio card, allowing the controller to be used with radio transmitters.



The semaphore card socket allows the board to manage, via an SMINN semaphore card, a two light semaphore and optionally use the red light as a maneuver beacon.

CONFIGURATION

The controller has an advanced menu system using an integrated keyboard and backlit LCD display to make configuration and maintenance easy, fast and intuitive.

Press the BACK and ENTER keys simultaneously to access the configuration menu. The LCD backlight will power on.

There are 4 keys to move through the menu:

- BACK (exit)
- ENTER (accept)
- <- (back)
- > (forward)

The <- / -> keys, are used to move through the selected menu options or settings.

The ENTER key is used to accept and validate the selection.

The controller has a configuration wizard that allows the installer to set up the most important configuration parameters and get the board working faster.

To use the wizard, go into the main menu pressing BACK + ENTER, press → until “MANEUVER PROG” is shown in the screen and accept pressing ENTER.

After this, the controller will ask one by one the most important configuration parameters to the installer. Please choose the appropriate settings using ← and → and press ENTER to continue or BACK to go back.

Once the needed configuration is done, the controller will prompt the installer to press ENTER to start the learning maneuver.

From here on the ENTER key, the LL1 input or a radio transmitter can be used for the learning process.

CONFIGURATION MENUS

OPTIONS

- AUTOMATIC CLOSING
- FAST BEAM CLOSING
- OPTIONAL AUTOMATIC
- INVERT ON KEY
- INVERSIÓN POR PULSACIÓN
- PARTIAL TIMES
- LIMIT SWITCHES
- LIGHT BARRIER
- LIGHT BARRIER TEST
- LIGHT BARRIER MODE
- BAND TYPE
- BAND MODE
- SOFT STOP
- AUXILIARY DEAD-MAN
- CLOSE ON BOOT
- FLASHING SEMAPHORE
- TIPO DE ACCIONAMIENTO
- TIME ENCODER

ADJUSTMENTS

- OPENING TIME
- CLOSING TIME
- EXTRA TIME
- AUTOMATIC CLOSING
- CLOSE ON BEAM
- ELECTROLOCK
- REVERSE STROKE
- POWER
- REGULATED STRATUP
- SOFT STOP
- FINAL STROKE
- HYDRÁULIC PRESSURE
- PREFLASHING
- LIGHT GARAGE

MAINTENANCE

- PARTIAL COUNTER
- INPUT STATUS
- ENABLE PASSWORD

PROGRAMMING WIZARD

OPERATING MODES

In all the modes securities worked as shown in the attached chart except when indicated otherwise.
The STOP input stops instantaneously the maneuver.

STANDARD

In this mode LL1 and radio starts a full maneuver and LL2 starts a pedestrian maneuver. It is not possible to interrupt the opening in this mode.

OPEN/CLOSE

In this mode LL1 opens and LL2 closes. Any of these signals interrupt the current maneuver immediately.

ALTERNATING STOP

In this mode LL1 and radio starts a full maneuver and LL2 starts a pedestrian maneuver. It is possible to interrupt the maneuver using any of these inputs; when the gate is moving any input will make it stop, when it is stopped any input will make it go the other way.

DEAD MAN

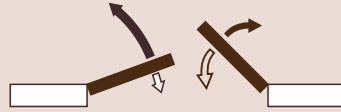
This mode only allows the gate to move while the LL1 input or radio are active (open) or the LL2 input is active (close). The maneuver interrupts immediately when there is no active input.
In this mode securities only pause the maneuver.

SEMI-AUTOMATIC DEAD MAN

The gate opens fully when the LL1 input or radio are active but only allows closing while the LL2 input is kept active. Securities function normally while opening and only pause while closing.

NORMAL FUNCTIONALITY OF SECURITIES

CLOSING LIGHT BARRIER



Cierre: Invierte
Apertura: No hace nada

BANDA DE CIERRE



Closing: Inverts 3 seconds and stops
Opening: Stops immediately



OPENING LIGHT BARRIER



Closing: Inverts
Apertura: Pauses the maneuver



OPENING SAFETY EDGE



Closing: Stops the maneuver
Opening: Inverts 3 seconds and stops

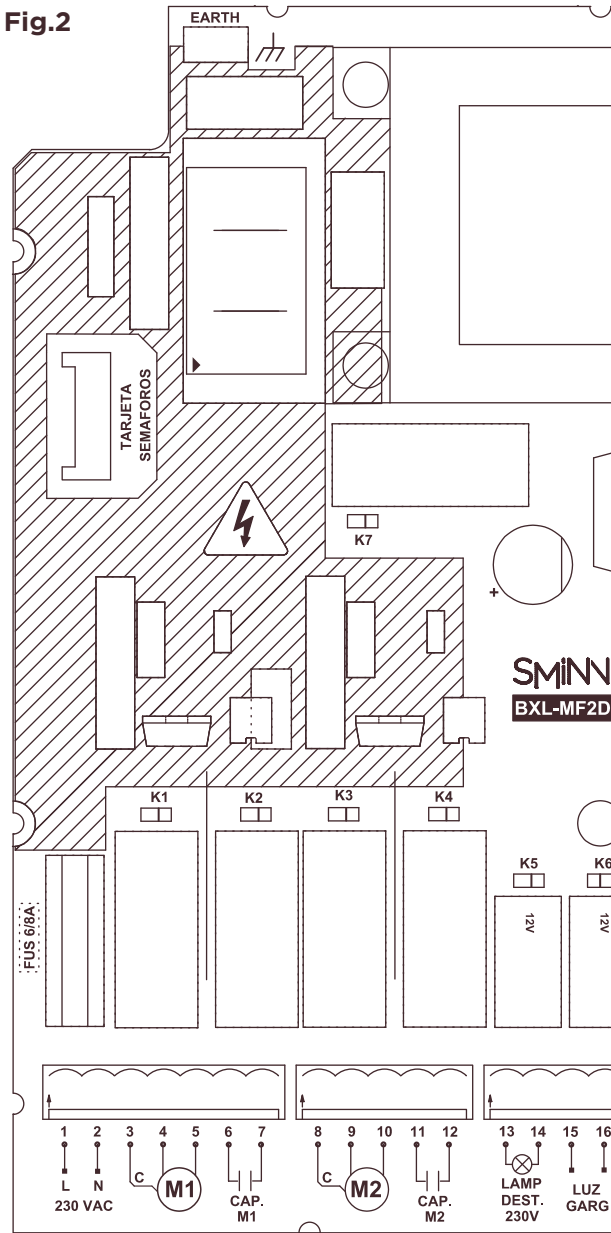


After STOP or a safety edge collision the next maneuver is a forced security closing (STANDARD and ALTERNATING STOP modes).

ELECTRICAL CONNECTIONS

1	230VAC Phase
2	230VAC Neutral
3	Motor 1 common
4	Motor 1 opening
5	Motor 1 closing
6	Motor 1 capacitor
7	
8	Motor 2 common
9	Motor 2 opening
10	Motor 2 closing
11	Motor 2 capacitor
12	
13	230VAC 40W flash lamp
14	
15	POTENTIAL FREE relay contacts for garage light or auxiliary lamp
16	
17	Electro lock 12V AC/DC
18	
19	Negative Power output for light barriers and other peripherals
20	
21	Negative power output for light barrier with auto-test
22	NC-1 opening limit switch
23	Limit switch 1 common
24	NC-1 closing limit switch
25	NC-2 light barrier contact
26	Securities common 1
27	R8K2/NC1 contact for safety edge
28	START complete maneuver input
29	Start / Stop common
30	Pedrestian START / dead man input

Fig.2



LIGHT BARRIER POWER CONNECTIONS

Light barrier transmitter negative must be connected to terminal 21 to use light barrier test

MANIOBRA APRENDIZAJE

Las maniobras de aprendizaje sirven para memorizar los parámetros temporales del cuadro. Dependiendo de si se ha activado paro suave o no el flujo del aprendizaje varía ligeramente.

APRENDIZAJE SIN PARO SUAVE

Desde puertas cerradas



Pulsa ENTER para iniciar aprendizaje de apertura. Inicio HOJA 1



Pulsar ENTER para iniciar HOJA 2



Pulsar ENTER para parar HOJA 1



Pulsar ENTER para parar HOJA 2



MANIOBRA DE CIERRE

Las maniobras de aprendizaje de cierre es homóloga a la de apertura, salvo que el orden de las hojas es el contrario. Siga las mismas indicaciones que para la apertura pero alternando las hojas.

APRENDIZAJE CON PARO SUAVE

Desde puertas cerradas



Pulsar ENTER para iniciar aprendizaje de apertura. Inicio de la HOJA1



Pulsar ENTER para iniciar HOJA2



Pulsar ENTER para paro suave HOJA1



Pulsar ENTER para paro suave HOJA2



Pulsar ENTER para paro HOJA1



Pulsar ENTER para paro HOJA2



OPCIONES

	TEXTO LCD	VALOR POR DEFECTO
CIERRE AUTOMATICO Habilita el cierre automático tras tiempo de pausa.	CIERRE AUTOMATICO	SI
CIERRE FOTOCÉLULA RÁPIDO La pausa tras una inversión por fotocélula dura el tiempo configurado como cierre de fotocélula.	CIER FOTO RAP.	NO
AUTOMATICO OPCIONAL Permite forzar el fin de la pausa de cierre automático mediante pulsación.	AUTO OPCIONAL	SI
RETRASO DE AUTOMÁTICO POR TECLA Reinicia el tiempo de pausa con cada orden de maniobra. Sólo visible si Auto. Opcional desactivado	TEC. RET. AUTO	NO
INVERSION POR PULSACION Permite invertir la maniobra de cierre mediante pulsación en modo ESTANDAR.	INVER TECLA	SI
TIEMPO PARCIAL Utiliza el tiempo que ha cerrado como tiempo de apertura en la inversión más un tiempo extra.	TIEMPO PARCIAL	NO
FINALES DE CARRERA Habilitación de las entradas de final de carrera.	FCA1 - FCC1 FCA2 - FCC2	SI - SI SI - SI
FOTOCÉLULA 1 - FOTOCÉLULA 2 Habilita el control de cada una de las fotocélulas.	FOTOC 1 FOTOC 2	NO NO
TEST DE FOTOCÉLULA 1 - TEST DE FOTOCÉLULA 2 Habilita el test de fotocélula antes del inicio de la maniobra.	TEST FOTOC 1 TEST FOTOC 2	NO NO
MODO FOTOCÉLULA 1 - MODO FOTOCÉLULA 2 Establece el comportamiento de cada fotocélula en apertura y en cierre. Opcs.: NADA / PAUSA / INVERSIÓN / PARO / INV. CORTA	FOTO 1 APER FOTO 1 CIERRE FOTO 2 APER FOTO 2 CIERRE	NADA INVER PAUSA INVER
BANDA 1 - BANDA 2 Habilita el control de cada una de las bandas de seguridad. Soporta banda resistiva y de contacto NA/NC. Opciones: NO / R8K2 / NA / NC	BANDA 1 BANDA 2	NO NO
MODO BANDA 1 - MODO BANDA 2 Establece el comportamiento de cada banda en apertura y en cierre. Opciones: NADA / PARA / INV. CORTA / INVERSIÓN	BANDA 1 APER BANDA 1 CIERRE BANDA 2 APER BANDA 2 CIERRE	PARA INV.CORTA INV.CORTA PARA
PARO SUAVE Habilita el paro suave.	PARO SUAVE	SI
CIERRE POR RETORNO DE CORRIENTE Después de una caída de alimentación hace que la puerta haga un cierre si los fines de carrera no están activados.	C. RET. COR.	NO
PREDESTELLO DE SEMAFORO Utiliza la luz roja del semáforo para realizar predestello de maniobra.	PREDEST.SEM.	NO
HOMBRE PRESENTE AUXILIAR Si el test de seguridades detecta fallo activa el modo hombre presente para permitir la apertura de la puerta.	HOM.PRES.AUX.	SI
ACCIONAMIENTO Permite la selección del tipo de motor a instalar: electromecánicos / hidráulicos. Hidráulicos: La regulación de fuerza se hace sin rampa. Permite habilitar intervalo de mantenimiento de presión.	ACCIONAMIENTO	Hid.
ENCODER DE TIEMPO Simula la utilización de encoder contando pulsos por tiempo y potencia. Los tiempos de inversiones son más precisos pero requiere que los motores funcionen de forma similar en ambos sentidos.	ENCODER TIEMPO	NO
BLOQUEO DE LL1 - BLOQUEO DE LL2 Bloqueo de las entradas de activación por llave LL1 / LL2. Sólo visible con contraseña activada.	BLOQUEO LL1 BLOQUEO LL2	NO NO

ESPAÑOL

ENGLISH

FRANÇAIS

ITALIANO

PORTUGUÊS

DEUTSCH

NEDERLANDS

ADJUSTEMENTS

	LCD TEXT	DEFAULT VALUE	ADJUSTMENTS
Leaf 1 / 2 open time	APER. HOJA 1/2	15 seg.	1-240 seg.
Pedestrian 1 / 2 open time	APER.PEAT	5 seg.	0-120 seg.
Delay between both blades when opening	RETR APERTURA	2 seg.	0-15 seg.
Leaf 1 / 2 close time	CIERRE HOJA 1/2	15 seg.	1-240 seg.
Delay between closing both blades when closing	RETR. CIERRE	2 seg.	No/1-15 seg.
Tiempo de cierre de hoja 2 durante cierre peatonal (Para evitar que se mueva por viento)	CIERRE VIENTO	5 seg.	No/1-240seg.
Tiempo extra para apertura por inversión por fotocélula con respecto al tiempo que ha estado cerrando	TIEMPO EXTRA	NO	No/1-50 seg.
Tiempo de pausa antes de cierre automático (Solo en modo de maniobra estandar)	CIERRE AUTO	60 seg.	1-360 seg.
Tiempo de pausa después de apertura peatonal para activación del cierre automático de la hoja 1	CIERRE AUTO PEAT	20 seg.	1-240 seg.
Tiempo cierre por fotocélula	CIERRE FOTOC	NO	No/2-240sg.
Tiempo de inversión corta	T. INV. CORTA	2 seg.	1/240 seg.
Tiempo que permanece la electrocerradura activada desde que empieza a abrir la puerta	ELECTROCERR.	2 seg.	No/2-10 seg.
Tiempo en el que la puerta 1 retrocede antes de abrir para ayudar a liberar la electrocer	GOLPE INVER.	2 seg.	No/1-5 seg.
Tiempo en el que la puerta 2 retrocede mientras abre la puerta 1 para ayudarle a liberar	LIBERAR CERR.	1 seg.	No/1-2 seg.
Potencia normal a aplicar a los motores	POTENCIA	80%	30-100%
Potencia a aplicar a los motores en paro suave	POT PARO SUAVE	30%	30-100%
Tiempo inicial de la maniobra en el que se aplica potencia de arranque	T. ARR. REGUL.	0.5 seg.	0-5 seg.
Potencia aplicada a los motores durante el tiempo de inicio de arranque	POT. ARRANQUE	100%	40-100%
Tiempo de último empujón a máxima potencia para garantizar el cierre de la electrocerradura	GOLPE ARIETE	1 seg.	No/1-3seg.
Intervalo de tiempo para activación temporal del motor hidráulico para mantenimiento de presión	INTERVALO PRESION	60 min.	No/1-120min
Tempo de activación del motor a cada intervalo	T.PRES.HIDR	2 seg.	No/1-5 seg.
Tiempo de activación de predestello antes de comenzar la maniobra. No se aplica en inversiones de puerta, solo desde inicio de maniobra	PREDESTELLO	2 seg.	No/1-10seg.
Tiempo de activación del relé de luz de garaje	LUZ GARAJE	120 seg.	No/1-240seg.

MAINTENANCE

This menu can be used to check the maneuver counters, input status, password configuration and doing factory reset.

VERSION

Shows in the LCD the number of the version of software.

PARTIAL COUNTER

It shows the total number of maneuvers since the last reset. Pressing ENTER on this option you can reset the partial meter, starting at 0.

TOTAL COUNTER

Displays the number of maneuvers performed since installation. This counter can not be set to 0.

INPUT STATUS

Displays the status of all configured inputs. The safety edge will not appear unless it is enabled

DEFAULT VALUES

Reset to the default setting (Factory Reset)

ENABLE PASSWORD

Enables a 4 digit password to access the menu. The default password is: 1234

CHANGE PASSWORD

Changes the controller 4 digit password.

OPEN

Forces opening while Enter is held. Use to test the motor direction.

CLOSE

Forces closing while Enter is held. Use to test the motor direction.

SMINN offers the installer a professional grade technical support service that will solve any problem and extend if needed the device warranty.

Temporally and depending on use the installation must be thoroughly tested by qualified personnel to detect any sign of wear.

If the board needs repair please contact the manufacturer or the nearest official service.

Once the controller is set up the installer must ensure the power and slow stop adjustments meet the EN12453:2000 regulations by performing the meterings described in the EN12445:2000 regulations. See force graph.

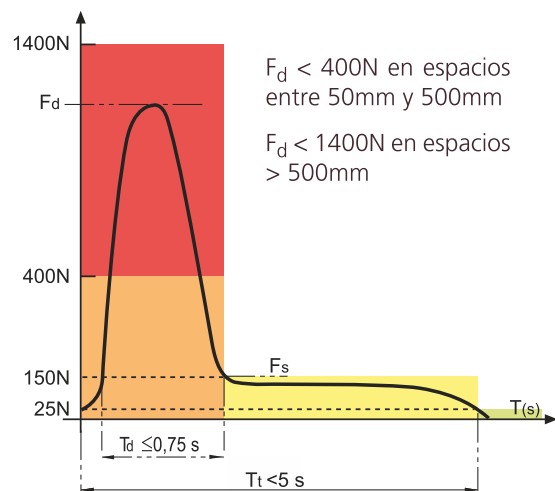
If these requirements are not met additional securities must be installed.

The dynamic force (F_d) must not surpass the following measures:

- < 400N in spaces between 5-50cm
- < 1400N in spaces greater than 50cm

Force graph

F_d : Dynamic force
 F_s : Static force



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.

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.

WASTE OF ELECTRICAL AND ELECTRONIC DEVICES (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 optimize 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.



TECHNICAL CHARACTERISTICS

Power supply	2 motors single phase universal motor controller
Maximun charge	230VAC
AC main fues	2x0.75CV (2x600W)
Power output	15VDC / 3.5VA (300mA)
Power output protection	Rearmable fuse
Electrolock output	12VDC / 1A selectable
Electrolock fuse	2/3A retarded
Maneuver control inputs	9 high insulation optoacoupled inputs 2 analog inputs
Plug-in cards	Radio and semaphore
LCD display	2x16 characters Chip-on-glass technology - Backlight
Operation temp.	-20°C / 70°C
Casing	ABS
Dimensions	L280 x W196 x H90 mm
Weight	1900g
Watertight	IP54 (IP65 with cable glands)

CE DECLARATION OF CONFORMITY

The company ELSON ELECTRÓNICA, S. A.
Pol. Torrelarragoiti, P6 - A3
48170 Zamudio - Vizcaya (SPAIN)

Declares:
The product BOX L MF2D motor controller
Manufactures
Under the trademark **SMINN**
For use in Residential, Commercial or
light industry enviroments.

This device meets the provisions as long as its usage
is compilant to what was envisaged, having applied the
following directives:

Directive 2014/30/EU - Electromagnetic compatibility

Directive 2014/35/EU - Low tension

Directive 2006/42/EC - Machines

Directive 2011/65/EU - RoHs

Directive 2012/19/EU - WEEE

Zamudio 22.02.2016



José Miguel Blanco Pérez
Chief Technical Officer

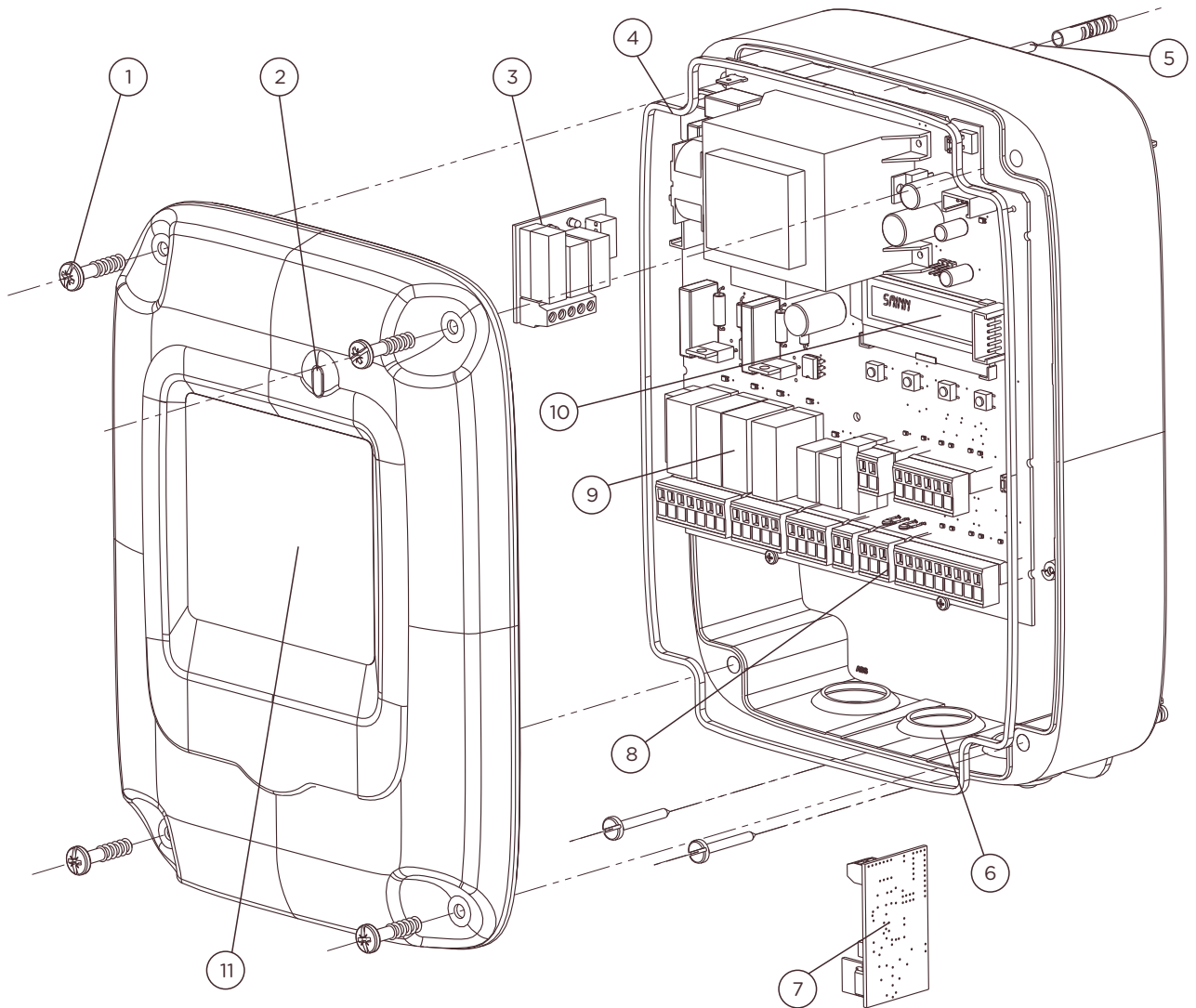
SMINN

innovative in electronics

www.sminn.com
info@sminn.com

MF2D EXPLOSION

Fig3



- 1. Captive screws
- 2. Power status LED
- 3. Semaphore card
- 4. Vacuum rubber gasket
- 5. External fixing with just three screws
- 6. Access ports for 16/24mm tubes
- 11. Frontal space for installer/revision sticker

- 7. Radio card
- 8. Plug-in terminal blocks
- 9. Power relays
- 10. Display

ESPAÑOL

ENGLISH

FRANÇAIS

ITALIANO

PORTUGUÊS

DEUTSCH

NEDERLANDS

