

EC COMPLIANCE DECLARATION

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1
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BOLOGNA - ITALY

Hereby declares that: the 844 MPSR electronic control unit

- complies with the essential safety requirements in the following EEC Directives:

73/23 EEC and subsequent amendment 93/68 EEC.

89/336 EEC and subsequent amendments 92/31 EEC and 93/68 EEC.

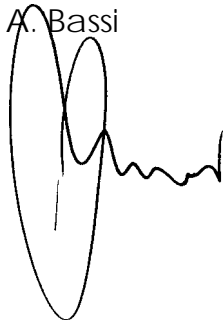
Additional note:

This product has been tested in a typical homogeneous configuration (all products manufactured by FAAC S.p.A.).

Bologna, 1 January 1997

Managing
Director

A. Bassi

A handwritten signature in black ink, consisting of a large, stylized initial 'A' followed by a series of smaller, connected loops and a final vertical stroke.

IMPORTANT NOTICE FOR THE INSTALLER

GENERAL SAFETY INSTRUCTIONS

- 1) **WARNING!** For reasons of safety, all the instructions in this manual must be observed scrupulously. Improper installation or misuse of the product may result in serious injury.
- 2) Read the instructions carefully before installing the product.
- 3) Packaging material (plastic, polystyrene etc.) is a potential hazard and must be kept out of reach of children.
- 4) Keep these instructions for future reference.
- 5) This product has been designed and manufactured only for the use stated in this manual. Any use other than that expressly indicated may result in damage to the product and/or risk of injury.
- 6) FAAC S.p.A. shall not be liable for any damage or injury caused by improper use of the automation or by any use other than that for which it is intended.
- 7) Do not install this device in explosive atmospheres: the presence of flammable gas or fumes is a serious hazard.
- 8) Mechanical structural elements must comply with UNI8612, CEN pr EN 12604 and CEN pr EN 12605 standards. For countries outside the EC, mechanical structural must comply with the above standards in addition to any national safety standards, in order to obtain a reasonable degree of safety.
- 9) FAAC cannot be held responsible for failure to observe technical standards in the construction of the gates on which the automation is installed, or for any deformation of the gates which may occur during use.
- 10) Installation must comply with UNI8612, CEN pr EN 12453 and CEN pr EN 12635. The degree of safety of the automation must be C+D.
- 11) Before carrying out any operations on the system, disconnect the electrical power supply.
- 12) Install a multi-pole switch on the supply line to the automation with a contact opening distance of 3 mm or more. We recommend the use of a 6A thermal magnetic circuit breaker with multi-pole switching.
- 13) Ensure that a residual current device with a trip threshold of 0.03A is installed upstream of the automation system.
- 14) Check that the earthing system is installed correctly and is efficient. Connect the metal parts of the gate and the yellow/green wire of the operator to the earthing system.
- 15) The automation is fitted with an anti-crushing safety system consisting of a torque control device which, in all cases, must be used in conjunction with other safety devices.
- 16) The safety devices (e.g. photocells, safety edges, etc.) protect areas where there is a mechanical movement hazard, e.g. crushing, entrapment and cutting.
- 17) Each installation must be fitted with at least one flashing light (e.g. FAAC LAMP, MINILAMP etc.) and a warning sign suitably fixed to the gate, in addition to the safety devices as per point 16 above.
- 18) FAAC cannot be held responsible for the safe and correct operation of the automation in the event that parts other than FAAC original parts are used.
- 19) Use only FAAC original spare parts for maintenance operations.
- 20) Do not carry out any modifications to automation components.
- 21) The installer must supply all information regarding manual operation of the system in the event of an emergency and provide the end-user with the "End-user Guide" supplied with the product.
- 22) Do not allow any persons, especially children, to stand in the vicinity of the automation when in operation.
- 23) Keep the remote radio controls and any other control devices out of the reach of children to prevent accidental operation of the automation.
- 24) The end-user must not attempt to repair or adjust the automation. These operations must be carried out exclusively by qualified personnel.
- 25) **Any operations not explicitly described in these instructions are not permitted.**

844 MPSR

These instructions apply to the following models:

844MPSR ELECTRONIC CONTROL UNIT

1. TECHNICAL CHARACTERISTICS

Table. 1 TECHNICAL CHARACTERISTICS OF 844MPSR

Power supply	230V~ (+6 -10 %) 50Hz
Motor max. load	650 W
Accessories power supply	24Vdc/24Vac
Accessories max. load	500 mA
Warning light power supply	12Vac (5W max)
Temperature range	- 20°C + 55°C
Fuses	transformer primary motor accessories
Quick connectors	for decoding cards or RP receivers capacitor limit switch
Inputs	OPEN/STOP/CLOSING SAFETY/LIMIT-SWITCH
Outputs	electric lock flashing light motor 24Vdc/24V-power supply for accessories
Logic programming	pause time (5-10-15-30-60-120-180 sec.) (automatic A1/S1/S2 - semiautomatic E1) pre-flashing
Motor braking	Adjustable by trimmer
Safety timing	255 sec.

1. 1. 844MPSR LAY-OUT

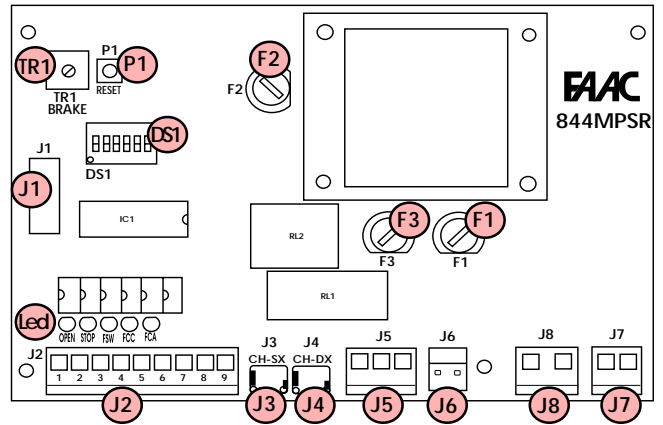


Fig. 1

TAB. 2 844MPSR Control unit components

F1	Fast-acting fuse F1 5x20 F5A/250V (motor)
F2	Time delay fuse F2 5x20 T1.6A/250V (accessories)
F3	Time delay fuse F3 5x20 T250mA/250V (transformer)
P1	RESET button
TR1	Braking adjustment trimmer
DS1	Programming dipswitches
Led	Input status indicator LEDs
J1	Quick connector for decoding cards/RP receiver
J2	Low voltage inputs/accessories terminal block
J3	Quick connector for limit switch (LH closure)
J4	Quick connector for limit switch (RH closure)
J5	Motor output terminal block
J6	Quick connector for capacitor
J7	Flasher unit output terminal block (230V- max 60W)
J8	Line input terminal block

2. ELECTRICAL CONNECTIONS

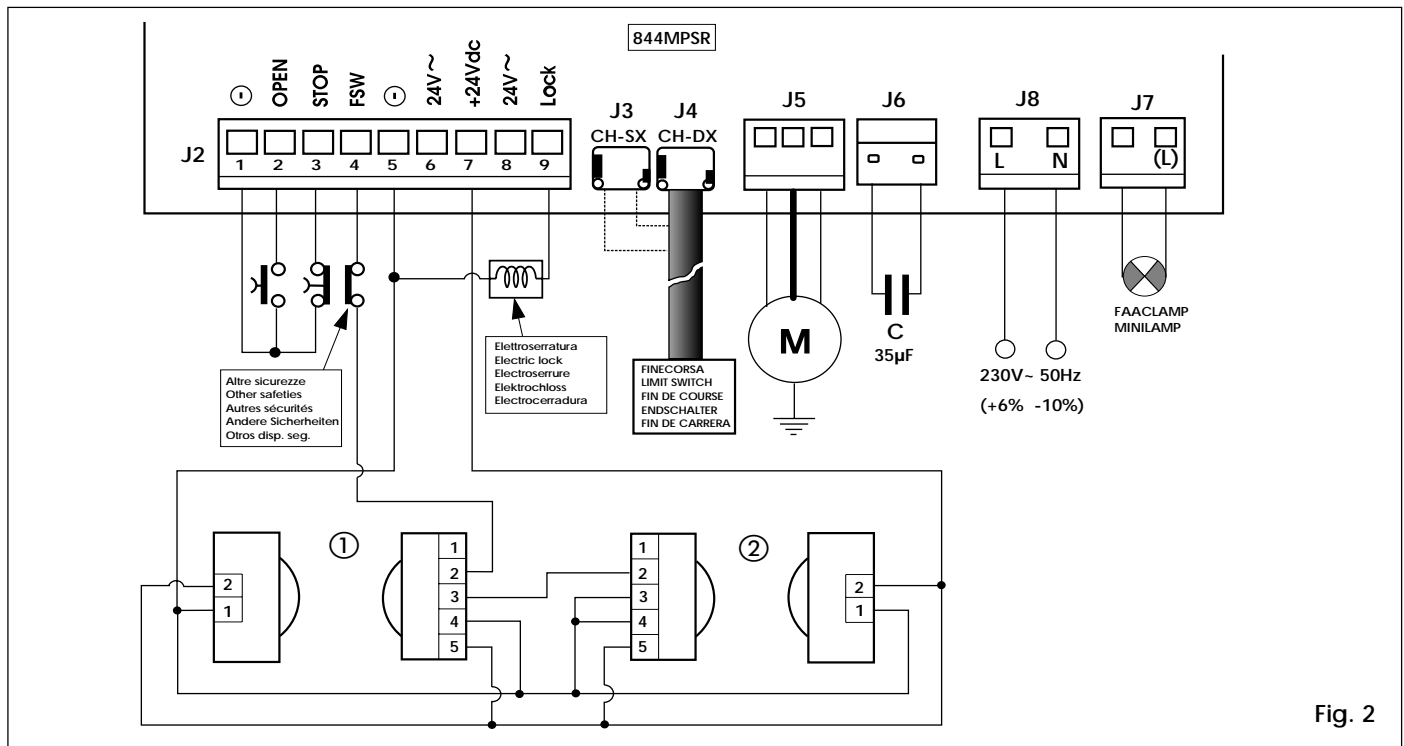


Fig. 2

⚠ Always disconnect the electrical power supply before carrying out any operations on the control unit (connections, programming, maintenance).

Warning: On disconnecting connector J6, high voltages may be present on the capacitor output.

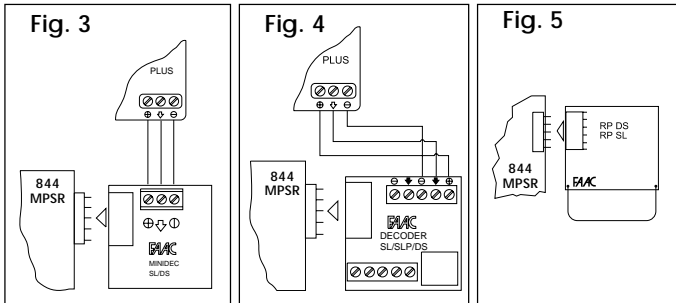
Observe points 10, 11, 12, 13 and 14 in the GENERAL SAFETY INSTRUCTIONS.

Always route the power supply cables separately from the control and safety cables (keyswitch, receiver, photocells, etc.). Use separate conduits to avoid any interference.

3. DESCRIPTION

3.1. CONNETOR J1

The connector J1 is used for the quick connection of MINIDEC, DECODER, RP RECEIVER boards (Figs. 3, 4, 5). Accessory boards are to be inserted with their component sides facing the inside of the 844MPSR electronic control unit. Always disconnect the power supply before inserting or removing accessory boards.



3.2. TERMINAL BLOCK J2 (low voltage)

1&5 = Common/Negative of accessory power supply (-)

2 = OPEN control device (N.O.)

Any control device (pushbutton, detector,...) which, on closing the contact, relays an open and/or close impulse to the gate.

To install more than one Open control device, connect the N.O. contacts in parallel.

3 = STOP control device (N.C.)

Any control device (e.g. pushbutton) which, on opening a contact, stops the movement of the gate. To install more than one Stop control device, connect the N.C. contacts in series.

⚡ If no Stop control devices are to be connected, place a jumper across the input and the common terminal (terminal 1 or 5).

4 = FSW closure safety device (N.C.)

Any control device (photocells, safety edges, magnetic loops) with an N.C. contact which interrupts the movement of the gate when an obstacle is detected within the protected area.

The task of the closure safety device is to safeguard the area occupied by the gate during the closing movement.

The intervention of safety devices during gate closure causes the direction of gate movement to be reversed. These devices do not intervene during gate opening movements. If a closure safety device is tripped when the gate is open or during a pause time, they will prevent gate closure.

To install more than one safety device, connect the N.C. contacts in series.

⚡ If no closure safety devices are to be installed, place a jumper across this input and the common terminal (terminal 1 or 5).

6&8 = 24V~ accessories power supply

The maximum load of the accessories is 500 mA. To calculate power draw, refer to the instructions for the individual accessories.

7 = 24Vdc accessories power supply positive (+)

The maximum load of the accessories is 500 mA. To calculate power draw, refer to the instructions for the individual accessories.

9 = Electric lock output (12 Vac)

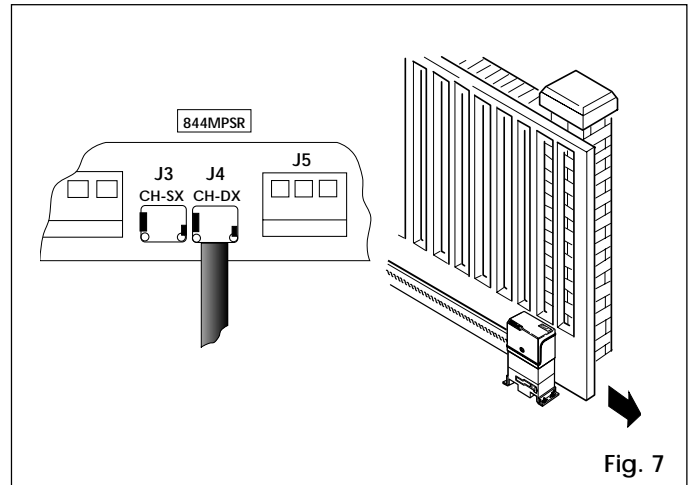
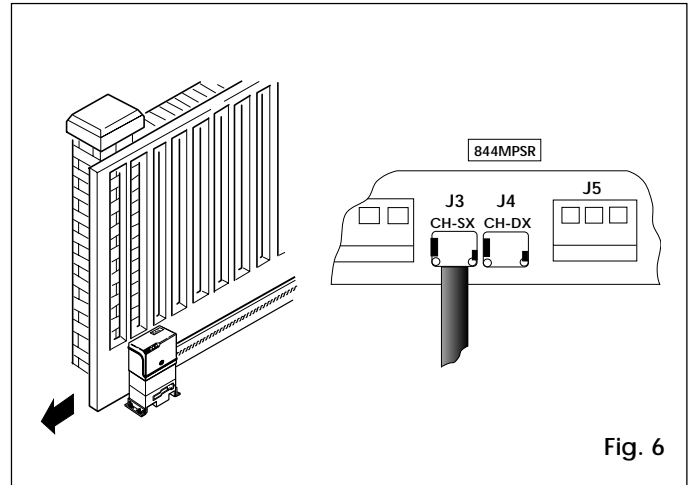
For operation of the electric lock, refer to the dipswitch settings. If two electric locks are installed, they must be connected in series.

5.2.3. CONNECTORS J3-J4 (limit switch)

J3 = Connection of limit switch for left-hand closure

J4 = Connection of limit switch for right-hand closure

Refer to Figs. 6-7 for quick connection of the inductive limit switch sensor for the corresponding gate closure direction.



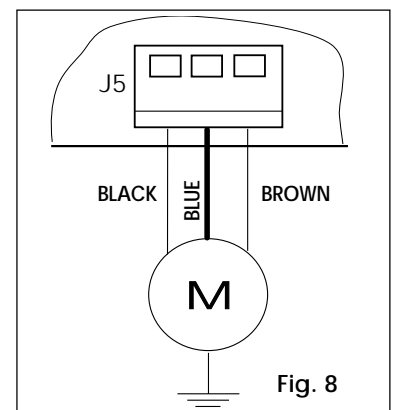
3.4. TERMINAL BLOCK J5 (high voltage)

Terminal block for motor connection.

⚡ Connect the wires to the terminals of J5 as shown in Fig.8.

BLACK AND BROWN WIRES = electric motor supply phases

BLUE WIRE = electric motor common



3.5. CONNECTOR J6 (high voltage)

Connector for quick connection of the capacitor.

3.6. TERMINAL BLOCK J7 (high voltage)

230V~ terminal block for connection of the flashing light (max 60W).

3.7. TERMINAL BLOCK J8 (high voltage)

Terminal block for connection of the 230V~ 50Hz power supply (L=Line N=Neutral). Connect the earth wire to the operator as shown in Fig.9

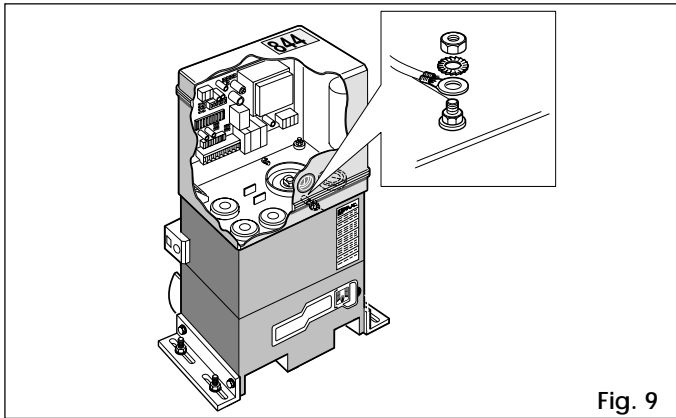


Fig. 9

3.8. INDICATOR LEDs

5 LEDs on the board indicate the status of the terminal inputs (see Table 3 and Fig. 10):

LED ON = contact closed

LED OFF = contact open

TABLE 3 MEANING OF STATUS INDICATOR LEDs

LED	ON	OFF
OPEN	Command active	Command not active
STOP	Command not active	Command active
FSW	Safeties disengaged	Safeties engaged
FCC	Closing limit disengaged	Closing limit engaged
FCA	Opening limit disengaged	Opening limit engaged

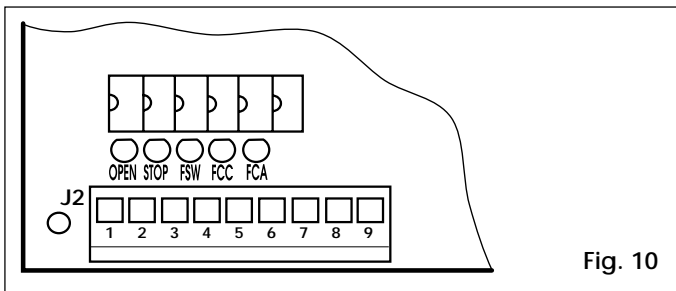
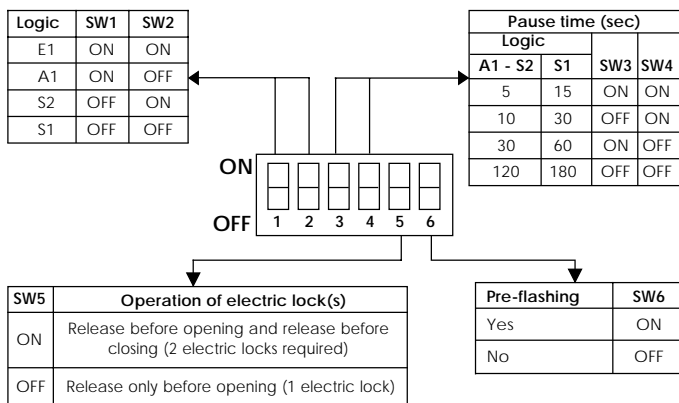


Fig. 10

4. DIPSWITCH SETTINGS

To program the operation of the automation, set the dipswitches as shown in the diagram above.



➔ Press the RESET button after all programming operations.

Operating logics

There are four operating logics available:

A1 = Automatic

S1 = Safety

S2 = Safety Plus

E = Semi-automatic

Operation of the different logics is described in tables 4- 5-6-7.

Pause time

The pause time is amount of time the gate remains open before it re-closes when an automatic control logic is selected. Pause times include the pre-flashing time, if selected.

Operation of electric lock(s)

Allows you to choose whether the electric lock is to be activated only before opening or also before closing. In both cases the lock is released only when the respective limit switch is engaged (e.g. it is released before opening only if the closure limit switch is activated).

Pre-flashing

It is possible to select 5 seconds pre-flashing of the flashing light before any gate movement. This serves to warn any persons in the vicinity that the gate is about to start moving.

TABLE 4 LOGIC A1 (AUTOMATIC)

LOGIC A1	IMPULSES		
	OPEN	STOP	SAFETY
CLOSED	opens and recloses after pause time (1)	no effect	no effect
OPEN	recloses after 5 s (2)	stops counting	freezes pause until disengagement
CLOSING	inverts motion	stops	inverts motion
OPENING	no effect	stops	no effect
STOPPED	recloses (1)	no effect	no effect

TABLE 5 LOGIC S1 (SAFETY)

LOGIC S1	IMPULSES		
	OPEN	STOP	SAFETY
CLOSED	opens and recloses after pause time (1)	no effect	no effect
OPEN	recloses immediately (1 and 2)	stops counting	recloses after 5 s from disengagement
CLOSING	inverts motion	stops	inverts motion
OPENING	inverts motion	stops	no effect
STOPPED	recloses (1)	no effect	no effect

TABLE 6 LOGIC S2 (SAFETY PLUS)

LOGIC S2	IMPULSES		
	OPEN	STOP	SAFETY
CLOSED	opens and recloses after pause time (1)	no effect	no effect
OPEN	recloses immediately (1 and 2)	stops counting	freezes pause until disengagement
CLOSING	inverts motion	stops	stops and inverts motion when disengaged (1)
OPENING	inverts motion	stops	no effect
STOPPED	recloses (1)	no effect	no effect

TABLE 7 LOGIC E1 (SEMI-AUTOMATIC)

LOGIC E1	IMPULSES		
	OPEN	STOP	SAFETY
CLOSED	opens (1)	no effect	no effect
OPEN	recloses (1)	no effect	no effect
CLOSING	inverts motion	stops	inverts motion
OPENING	stops	stops	no effect
STOPPED	recloses (reopens when safety devices are engaged) (1)	no effect	no effect

(1) With the pre-flashing selected, movement starts after 5 seconds.

(2) If the impulse is sent during pre-flashing, the timer is reset to zero.

5. FAULT CONDITIONS

The following conditions effect normal operation of the automation:

- ① microprocessor error
 - ② intervention of the electronic safety timer (interruption of operation after continuous working time exceeds 255 seconds).
 - ③ disconnection of the limit switch cable connector
- Conditions ① and ② have the sole effect of causing the automation to stop.
 - Condition ③ (indicated by the fact that both LEDs FCA and FCC are off) prevents the card from operating: normal operation is only resumed after the cause of the alarm has been eliminated and the RESET button has been pressed (or the power supply has been momentarily interrupted).

For repairs contact an authorised FAAC Repair Centre.

6. SEPARATE INSTALLATION

If you prefer to install the control unit 844 MPSR separately from the operator, use the 844 INTERFACE card and the adapter cable (provided with the geared motor) and connect them together as shown in fig. 11.

The surge capacitor can be coupled either to the control unit (J6) or to the interface card (J5).

Important: make sure that the cable colour code is respected when connecting the electric motor. Install the control unit 844 MPSR in a box with minimum housing protection IP55.

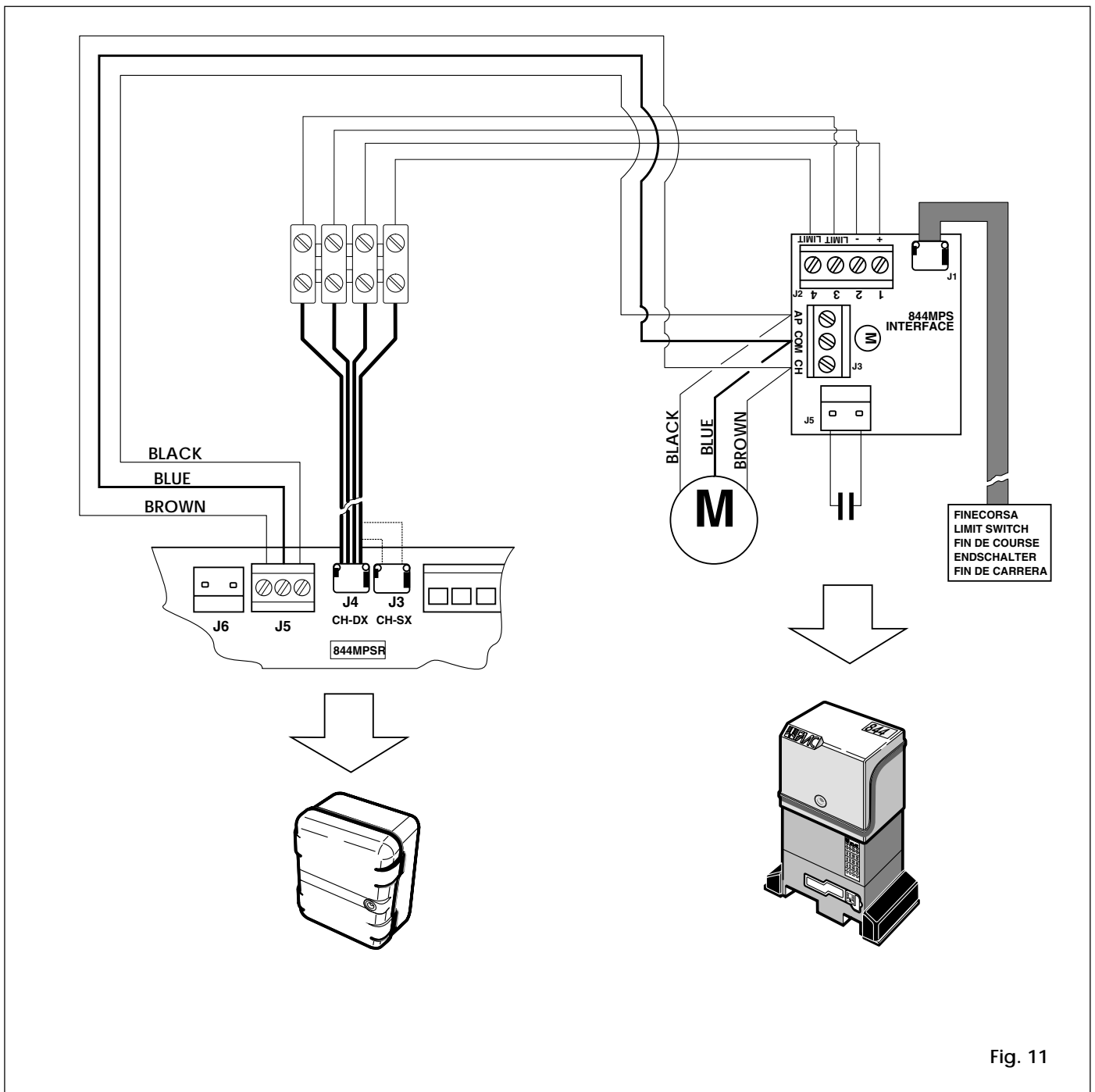


Fig. 11