



AUTOMATIC ENTRANCE SPECIALISTS

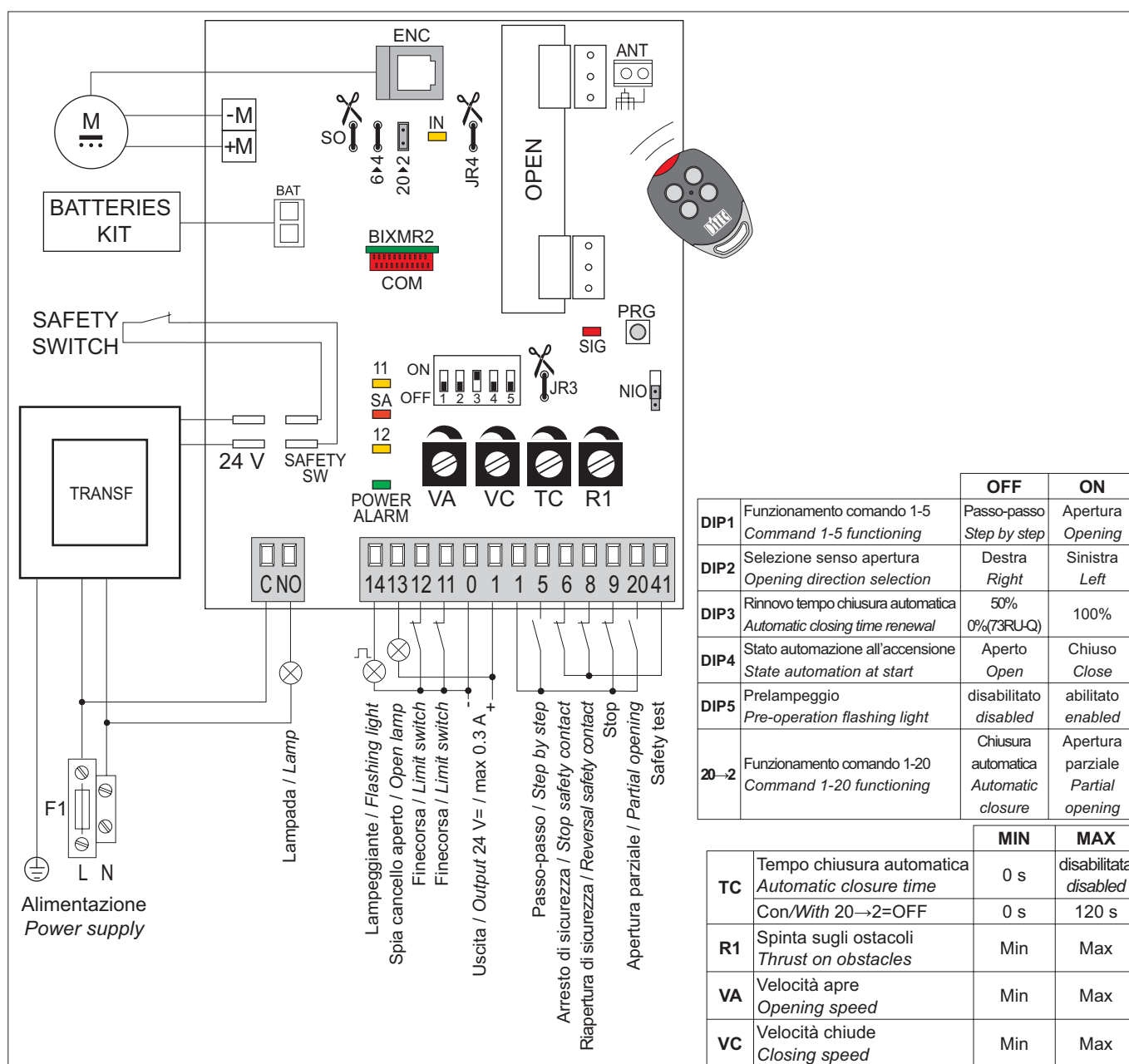


HomeLink[®]
kompatibel

73R

IP1851
rev. 2006-10-09

- I** Manuale d'installazione quadro elettronico per automazioni ad un motore 24 V= con radio incorporata.
- GB** Control panel installation manual for one motor automation 24 V= with built-in radio.
- F** Notice d'installation d'une armoire électrique pour automatisation à un moteur 24 V= avec radio incorporée
- D** Installationsanleitung für einmotorige Torsteuerung 24 V= mit eingebautem Funkempfänger.
- E** Manual de instalación del tablero eléctrico para automación a un motor 24 V= con radio incorporado.
- P** Manual de instalação do quadro eléctrico para automação com um motor 24 V= com rádio incorporado.




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ISO 9001
Cert. n° 0957



GENERAL SAFETY WARNINGS


 This installation manual is intended for professionally competent personnel only.


The installation, the power connections and the settings must be completed in conformity with Good Working Methods and with the regulations in force. Before installing the product, carefully read the instructions. Bad installation could be hazardous.

The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as these are a potential source of hazard. Before beginning the installation check that the product is in perfect condition.

Do not install the product in explosive areas and atmospheres: the presence of flammable gas or fumes represents a serious threat to safety.

The safety devices (photocells, sensitive edges, emergency stop, etc.) must be installed taking into account: the provisions and the directives in force, Good Working Methods, the installation area, the functional logic of the system and the forces developed by the motorised door or gate.

 Before making power connections, check that the rating corresponds to that of the mains supply A multipolar disconnection switch with a contact opening gap of at least 3 mm must be included in the mains supply. Check that upstream of the electrical installation an adequate residual current circuit breaker and an overcurrent cut out are fitted. When requested, connect the motorised door or gate to an effective earthing system carried out as indicated by current safety regulations. During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.

 To handle electronic parts, wear earthed antistatic conductive bracelets. The manufacturer of the motorisation declines all responsibility in the event of components which are not compatible with the safe and correct operation of the product. For repairs or replacements of products only original spare parts must be used.


EC DECLARATION OF CONFORMITY

Manufacturer: DITEC S.p.A.
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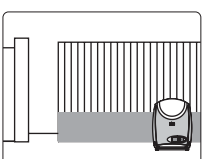
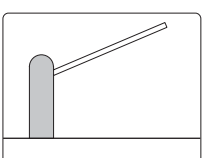
Herewith declares that the control panel 73R (with receiver 433.92 MHz) is in conformity with the provisions of the following EC directives:

Low Voltage Directive 73/23/EEC;
EMC Directive 89/336/EEC;
R&TTE Directive 1999/5/EC.

Caronno Pertusella,
11-11-2003

Fermo Bressanini
(President)


APPLICATIONS

73RP 73RG	
73RU 73RQ	

TECHNICAL DETAILS

	73RP (CROSS3E)	73RG (CROSS7EH)	73RU (UP2EH-UP4EH)	73RQ (QIK7EH)	73RP (CROSS3EJ)	73RG (CROSS7EHJ)	73RUJ (UP4EHJ)	73RQJ (QIK7EHJ)
Power supply	230 V~ 50-60 Hz	230 V~ 50-60 Hz	230 V~ 50-60 Hz	230 V~ 50-60 Hz	120 V~ 50-60 Hz	120 V~ 50-60 Hz	120 V~ 50-60 Hz	120 V~ 50-60 Hz
Fuse F1	F1,6A	F2A	F1,6A	F1,6A	F3,15A	F4A	F3,15A	F3,15A
Motor output	24 V= / 8 A	24 V= / 14 A	24 V= / 7 A	24 V= / 7 A	24 V= / 8 A	24 V= / 14 A	24 V= / 7 A	24 V= / 7 A
Accessories power supply	24 V= / 0,3 A							
Temperature	-20° C / +55° C							
Protection degree	IP24D							
Memorable radio codes	200							
Radio frequency	433,92 MHz							

1. ELECTRICAL CONNECTIONS

1.1 Commands

Command	Function	Description
1 — 5	N.O.	STEP-BY-STEP WITH AUTOMATIC CLOSING With DIP1=OFF and TC<MAX, the closure of the contact activates an opening or closing operation in the following sequence: open-stop-close-open. <i>Note: the stop is not permanent, but has the duration set by TC.</i>
		STEP-BY-STEP WITHOUT AUTOMATIC CLOSING With DIP1=OFF and TC=MAX, the closure of the contact activates an opening or closing operation in the following sequence: open-stop-close-open.
		OPENING WITH AUTOMATIC CLOSING With DIP1=ON and TC<MAX, the closure of the contact activates an opening operation.
		OPENING WITHOUT AUTOMATIC CLOSING With DIP1=ON and TC=MAX, the closure of the contact activates an opening operation. <i>Note: with the automation blocked, the closure of the contact activates the opposite operation compared with that activated before the stop.</i>
41 — 6	N.C.	SAFETY STOP The opening of the safety contact stops and prevents any movement.
1 — 6	N.O.	CLOSING With 6→4=OFF, the closure of the contact activates a closing operation.
41 — 8	N.C.	REVERSAL SAFETY DEVICE Opening the safety contact triggers a reversal of the movement (reopening) during a closing operation.
1 — 9	N.C.	STOP Opening the safety contact stops the current operation.
1 — 9	N.O.	OPERATOR PRESENCE DEPENDENT CONTROL With DIP1=ON and 6→4=OFF, permanently opening the safety contact enables the operator presence dependent function. All safety switches, the step-by-step control and the automatic closing function are disabled.
1 — 20	N.O.	PARTIAL OPENING With jumper 20→2=ON, the closing of the contact activates a partial opening operation of the duration set with the RP trimmer. Once the automation stops, the partial opening control performs the opposite operation to the one performed before stoppage.
		AUTOMATIC CLOSING With jumper 20→2=OFF, the permanent closure of the contact enables automatic closing.
0 — 11	N.C.	CLOSURE LIMIT SWITCH With DIP2=OFF, the opening of the contact stops the closure operation. With DIP2=ON, the opening of the contact stops the opening operation. <i>Note: make a jumper on the terminals without limit switch.</i>
0 — 12	N.C.	OPENING LIMIT SWITCH With DIP2=OFF, the opening of the contact stops the opening operation. With DIP2=ON, the opening of the contact stops the closing operation. <i>Note: make a jumper on the terminals without limit switch.</i>
—	N.C.	SAFETY SWITCH The SAFETY SWITCH contact is connected to the release system of the automation. Opening the release contact stops the operation.

WARNING: Make a jumper on all NC contacts if not in use. The terminals with the same number are equal. The given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

1.2 Self-controlled safety edge SOFA1-SOFA2

Command	Function	Description
1 — 6	N.C.	SAFETY STOP Connect the output contact of device SOFA1-SOFA2 to terminals 1-6 on the control panel (in series with the photocell output contact, if installed).
1 — 8	N.C.	REVERSAL SAFETY DEVICE Connect the output contact of device SOFA1-SOFA2 to terminals 1-8 on the control panel (in series with the photocell output contact, if installed).
41 •		SAFETY TEST Connect the terminal of device SOFA1-SOFA2 to terminal 41 of the control panel. Connecting terminal 41 enables a safety edge test cycle before every operation. If the test fails the SA led flashes and the test is repeated.

1.3 Outputs and accessories

Output	Value	Description
	24 V= / 0,3 A	Accessories power supply. Power supply output for external accessories, including automation status lamp.
	24 V= / 3 W (0,125 A)	Automation status light (proportional). The light goes off when the automation is closed; the light comes on when the automation is open; The light flashes with a variable frequency while the automation is operating.
73RP-G-U 	24 V= / 50 W (2 A)	Flashing light (LAMPH). Activated during opening and closing operations.
	230 V~ / 100 W (0,4 A) 120 V~ [73RUJ]	Courtesy light. A courtesy light can be connected in series to the NO contact, which activates for 180 s. on each opening (total or partial), step-by-step and closure command.
	24 V= / 50 W (2 A)	Flashing light (LAMPH). With DIP5=OFF, activated during opening and closing operations.
	230 V~ / 100 W (0,4 A) 120 V~ [73RQJ]	Courtesy light. With DIP5=OFF, a courtesy light can be connected in series to the NO contact, which activates for 180 s. on each opening (total or partial), step-by-step and closure command.
73RQ 	24V= / 0,1 A	24V Electric block (QIKAFE). With DIP5=ON, on with the barrier closed.
	24 V= / 20 mA	Light kit (QIKLUX). With DIP5=ON, on with barrier closed, flashing with barrier operating and off with barrier open.
	24 V= / 50 W (2 A)	Flashing light (LAMPH). With DIP5=ON, a flashing light can be connected in series to the NO contact, which activates during the opening and closing operations.
BAT		<p>Battery operation. An optional battery kit is available including a control circuit and battery charger. The batteries are kept charged when the power supply is on. If the power supply is off, the panel is powered by the batteries until the power is re-establish or until the battery voltage drops below the safety threshold. The panel turns off in the last case.</p> <p><i>Attention: the batteries must always be connected to the control panel for charging. Periodically check the efficiency of the batteries.</i></p> <p><i>Note: the operating temperature of the rechargeable batteries is approximately +5°C/+40°C. The batteries should be installed inside a climatized environment to ensure the correct functioning of the product.</i></p>

2. SETTINGS

2.1 Trimmer

Trimmer	Description
TC 	<p>Setting automatic closing time. From 0 to 120 s.</p> <p>With DIP3=OFF, once a safety switch has been activated, the counter starts as soon as the safety switch is released (for example, after passing through the photocells), and lasts for a period of time set with TC (50%). <i>Attention: with 73RU-73RQ the automatic closing is immediate.</i></p> <p>With DIP3=ON, the counter starts when automation is opened and lasts for the entire duration set with TC (100%). <i>Note: after the activation of the stop command, once contact 1-9 has closed again, automatic closing is only enabled after a total, partial or step-by-step opening command.</i></p> <p>With jumper 20→2=OFF, the permanent closure of contact 1-20 enables automatic closing.</p>
R1 	<p>Setting obstacle thrust. The control panel is equipped with a safety system that stops motion if an obstacle is encountered during an opening operation and inverts the movement during a closing operation, except for the last approach section in which it STOPS. After the obstacle has been removed, the automation automatically searches for the stop carrying on the movement at the learning speed. R1=MIN gives maximum obstacle sensitivity (minimum thrust). R1=MAX disables detection (maximum thrust). <i>Attention: with 73RQ (JR3=OFF) control panels, R1 adjusts the stop distance of the bar.</i></p>
VA-VC 	<p>Opening speed adjustment. Adjusts the opening speed.</p> <p>Closing speed adjustment. Adjusts the closing speed.</p>

2.2 Dip-Switch

 73RP-G-U
73RQ

	Description	OFF	ON
DIP1	Control 1-5 function.	Step-by-Step.	Opening.
DIP2	Direction selection.	Opens towards right.	Opens towards left.
DIP3	Restore automatic closing time.	50% (73RP-73RG) 0% (73RU-73RQ).	100%
DIP4	Automation status at power on. Indicates how the control panel considers automation when powered up.	Open. <i>Note: with a limit switch installed, preferably set DIP4=OFF.</i>	Closed. <i>Note: if the automatic closing function is not used, preferably set DIP4=ON.</i>
DIP5	Preflashing set at 3 s.	Disabled during opening. Enabled only with automatic closing and with TC>3 s.	Enabled for both opening and closing.
DIP5	Output 0-14 function.	Flashing light.	Electric block and barrier light kit.

2.3 Jumper

	Description	OFF	ON
20→2	Command functions 1-20.	Automatic closing enabled.	Partial opening command.
NIO	Electronic antifreeze system. Maintains motor function even at low ambient temperatures. <i>Note: for correct operation, the control panel must be exposed to the same ambient temperature as the motors.</i>	Enabled.	Disabled.

2.4 Bridges

	Description	OFF	ON
JR3	Maximum manoeuvring force limit.	With 73RP and 73RG: normal closing force. With 73RU: not used. With 73RQ: allows the adjustment of the stop distance by means of R1.	With 73RP and 73RG: reduced closing force. With 73RU: not used. With 73RQ: stopping fixed at 30° and reduction of the maximum closing.
JR4	Incorporated radio receiver.	Disabled.	Enabled.
SO	Safety functions 1-8 or 41-8.	The opening of contacts 1-8 or 41-8 with the automation idle allows immediate opening by means of command 1-5 or remote control.	The opening of contact 1-8 or 41-8 with the automation idle prevents all operations.
6→4	Control 1-6 function.	Closing (N.O.)	Stop (N.C.)

2.5 Signals

LED	ON	Flashing
POWER ALARM	Power supply on.	Encoder fault.
SA	Indicates that at least one of the safety contacts is open.	On power on, the LED flashes to indicate the number of operations performed: each rapid flash = 1000 operations each slow flash = 10000 operations If the SOFA1-SOFA2 device is installed, this indicates a safety test failure (terminal 41).
11	Indicates that the 0-11 limit switch contact is open.	/
12	Indicates that the 0-12 limit switch contact is open.	/
SIG	During the transmitters enabling/memorisation phase.	During the reception of a radio transmission.
IN	Activated at every command and adjustment to the dip-switch and jumper.	/

3. RADIO

The control panel is equipped with a radio receiver with a frequency of 433.92 MHz. The antenna is a 173 mm long rigid wire. The range of the radio receiver can be increased by connecting the external antenna on the flashing light or by installing a tuned BIXAL antenna.

Note: use a RG58 (max 10 m) coaxial cable to connect the external antenna to the control panel.

Up to 200 transmitters can be memorised in the BIXMR2 memory.

Consult the L series remote control use instructions for the memorisation, cloning and cancellation of transmitters.

From one to four CH buttons of the same transmitter can be memorised on the control panel.

If just one transmitter CH button (any) is memorised command 1-5 (step-by-step/open) is performed.

If from two to four CH buttons of the same transmitter are memorised, the operations associated to the CH buttons are as follows:

- CH1 = command 1-5 step-by-step/open;
- CH2 = partial opening command;
- CH3 = courtesy light on/off command;
- CH4 = stop command, equal to the 1-9 impulsed command.

If the control panel is replaced, the BIXMR2 memory in use can be introduced to the new control panel.

Attention: the insertion and extraction of the BIXMR2 memory must be carried out in the absence of a power supply.

4. STARTING



ATTENTION THE OPERATIONS RELATED TO POINT 4.5 ARE PERFORMED WITHOUT SAFETIES.

The trimmer can only be adjusted with the automation idle.

After each start, after the DIP2 has been activated or after the opening of 6→4 or 20→2, the control panel RESETS and the first operation is performed at a reduced speed (automation position learning).

the 73R control panel does not require a limit switch because it has an encoder.

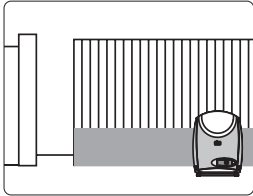
The automation automatically slows when approaching the stops.

- 4.1 Bridge the NC safety contacts with a jumper.
- 4.2 Before starting up, check the application type selected.
- 4.3 The limit switches are optional, if used they must be adjusted so that they activate close to the mechanical opening and closing stop.
Note: limit switches must be kept pressed until the operation has been completed.
- 4.4 Set TC=MAX.
Using DIP2, set the direction.
- 4.5 Switch on and check the automation is operating correctly with the subsequent step-by-step commands.
Check that the limit switches activate if present.
- 4.6 Connect the safety devices (removing the relative jumpers) and check that they function correctly.
- 4.7 If required, regulate the automatic closing by means of the TC trimmer.
Warning: the automatic closing time after a safety is activated depends on the DIP3 setting.
- 4.8 Set the desired opening and closing speed with the VA and VC.
- 4.9 Set obstacle thrust with R1.
Note: ensure that the forces exerted by the door wings are compliant with EN12453-EN12445 regulations.
- 4.10 Connect any other accessories and check operation.

5. TROUBLESHOOTING

Problem	Possible causes	Remedy
Automation does not open or close.	No power. (POWER ALARM led off).	Check that the control panel is powered correctly.
	Short circuited accessories. (POWER ALARM led off).	Disconnect all accessories from terminals 0-1 (voltage must be 24 V=) and reconnect one at a time.
	Blown line fuse. (POWER ALARM led off).	Replace fuse.
	Safety contacts are open. (SA led on).	Check that the safety contacts are closed correctly (N.C.).
	Safety contacts not correctly connected or self-controlled safety edge SOFA1-SOFA2 not functioning correctly. (SA led flashing).	Check connections to terminals 6-8 on control panel and connections to the self-controlled safety edge SOFA1-SOFA2.
	Release SAFETY SWITCH microswitch open (11 and 12 leds on).	Check that the hatch is closed correctly and the microswitch makes contact.
	The remote control does not work.	Check the correct memorisation of the transmitters on the incorporated radio. If there is a fault with the radio receiver that is incorporated in the control panel, the radio control code can be read by removing the BIXMR2 memory module.
Automation opens but does not close.	Safety contacts are open. (SA led on).	Check that the safety contacts are closed correctly (N.C.).
	Safety contacts not correctly connected or self-controlled safety edge SOFA1-SOFA2 not functioning correctly. (SA led flashing).	Check connections to terminals 6-8 on control panel and connections to the self-controlled safety edge SOFA1-SOFA2.
	Photocells activated. (SA led on).	Check that the photocells are clean and operating correctly.
	The automatic closing does not work.	Make sure that the TC trimmer is not set to maximum, or if the jumper 20→2 is open, check that contact 1-20 is closed.
External safety devices not activating.	Incorrect connections between the photocells and the control panel.	Connect NC safety devices together in series and remove any bridges on the control panel terminal board.
The automation opens/closes briefly and then stops.	Encoder disconnected, false encoder contacts, encoder fault. (POWER ALARM led flashing).	Check that the encoder is connected correctly, clean the contacts by connecting and disconnecting the encoder plug on the contacts, replace encoder.
	Motor leads crossed. (POWER ALARM led flashing).	Check the motor leads.
	There is a presence of friction.	Manually check that the automation moves freely and check the R1 adjustment.
The remote control has limited range and does not work with the automation moving.	The radio transmission is impeded by metal structures and reinforced concrete walls.	Install the antenna outside. Substitute the transmitter batteries.

6. EXAMPLE APPLICATIONS FOR SLIDING GATES



When the control panel is used in sliding automation applications:

(Fig. 6.1) connect the opening and closing limit switch NC contacts to terminals 0-11-12.

The door wing stops when the limit switches activate before the stops with these connections.

(Fig. 6.2) Select the correct opening direction with DIP2.

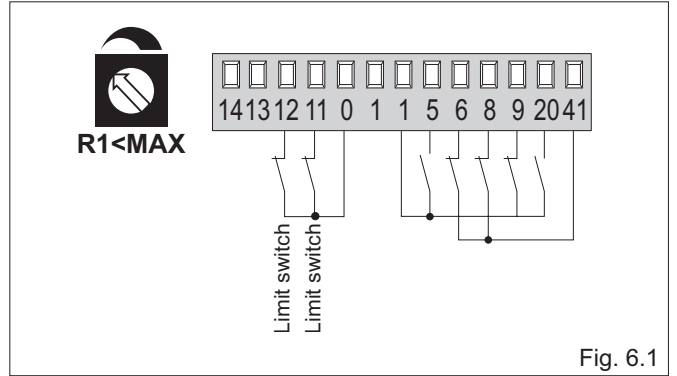


Fig. 6.1

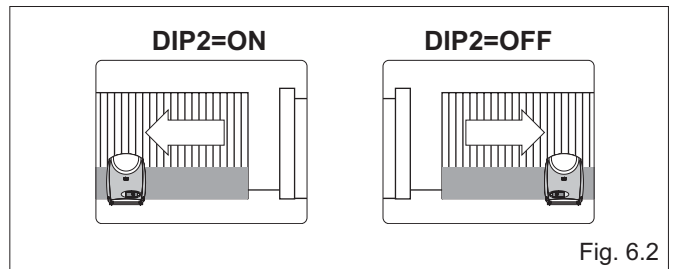
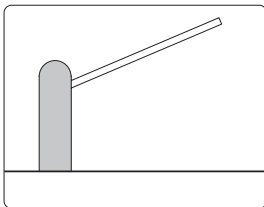


Fig. 6.2

7. EXAMPLE APPLICATION FOR BARRIERS



When the control panel is used in barrier applications:

(Fig. 7.1) connect the opening and closing limit switch NC contacts to terminals 0-11-12.

The door wing stops when the limit switches activate before the stops with these connections.

(Fig. 7.2) Select the correct opening direction with DIP2.

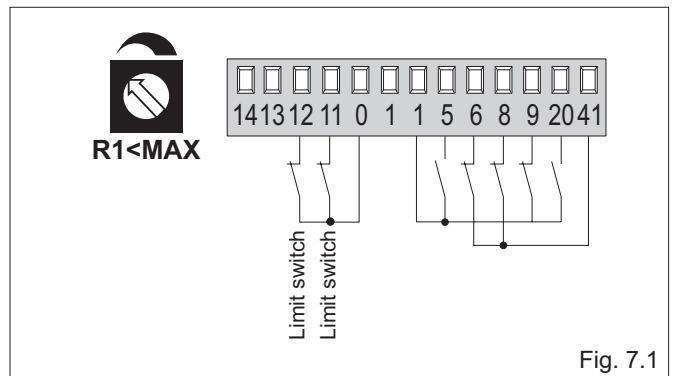


Fig. 7.1

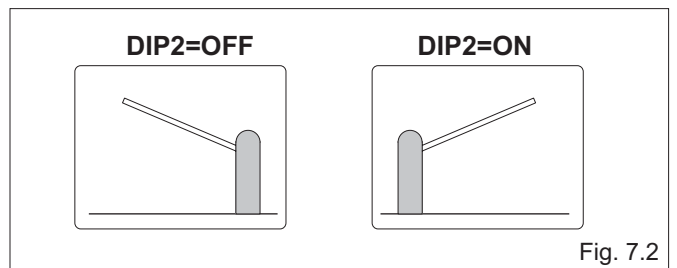
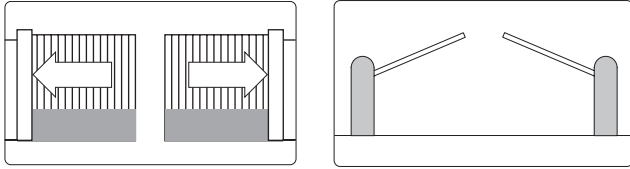


Fig. 7.2

8. EXAMPLE OF PARALLEL AUTOMATIONS



It is possible to command two automations [A] and [B] side by side, making the connections indicated in fig. 8.1.

Attention: in the absence of safety edges SOFA1-SOFA2, connect commands 1-6 and 1-8 to the SWT card.

Commands 1-5 and the remote control (with DIP1=ON) are equivalent to a total opening command.

To manage both automations with a single remote control, do not use the radio receivers on the control panels (JR4=OFF), but insert a BIXLR22 receiver.

Adjust trimmers TC, VA and VC in the same position in both control panels.

Note: the opening and closing movements may not be synchronised.

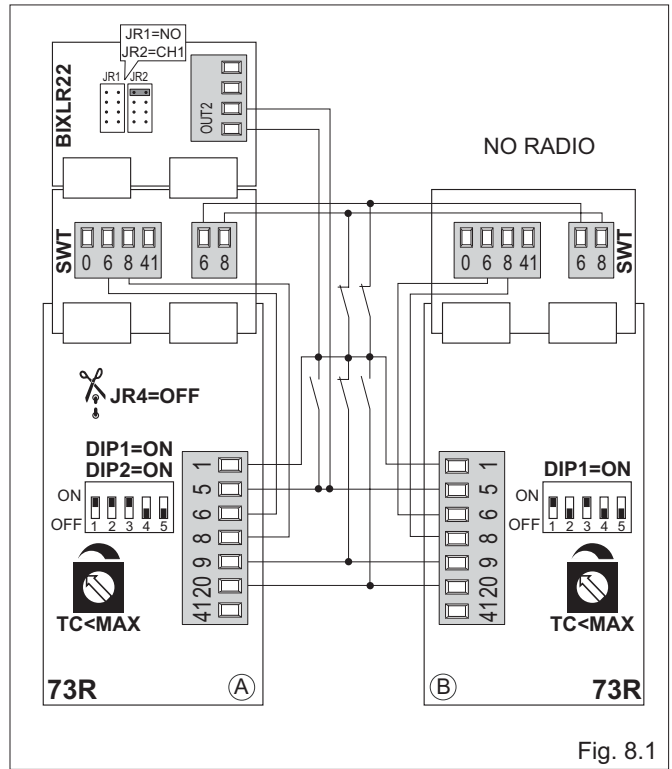


Fig. 8.1

9. EXAMPLE OF THE OPERATOR PRESENCE DEPENDENT FUNCTION

When the control panel is used in applications with the operator presence dependent function, make the connections indicated in Fig. 9.1 and make the following settings:

- set the opening command with DIP1=ON;
- set the closing command by cutting jumper 6→4.

In this state, the opening (1-5) and closing (1-6) controls function only if held in the pressed position, and the automation stops when the controls are released.

All safety switches, the step-by-step control and the automatic closing function are disabled.

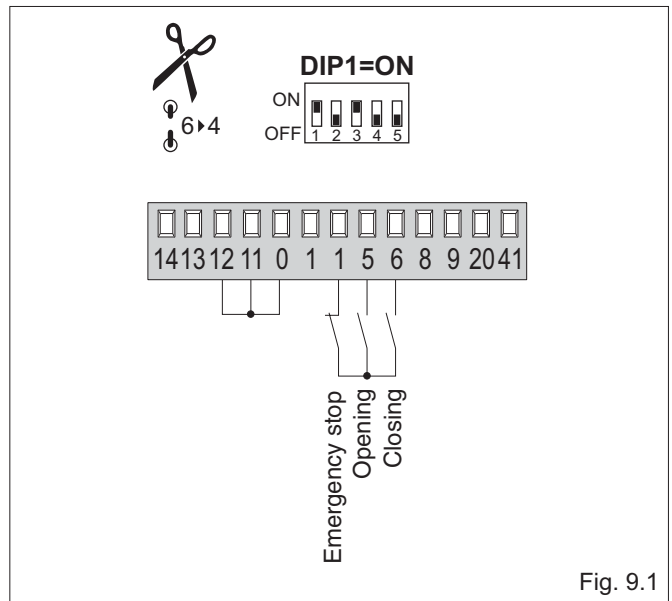


Fig. 9.1

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