




**GENERAL SAFETY PRECAUTIONS**


 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.

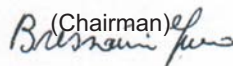
**INSTALLATION WARNING**

Secure the control panel permanently. Drill a hole into the lower side of the container so as to run the cables through it. Secure the cables, if they are accessible, by means of appropriate gland plates (not provided by us). Keep the line and motor conductors separate (at least 8 mm) from the control conductors at the terminal board connection points (for example, by means of clamps). Connect the line and motor protection conductors (yellow-green) by means of the transformer and control panel using the clamp provided. At the end of the installation to close again the container.

**EC DECLARATION OF CONFORMITY**

Manufacturer: DITEC S.p.A. via Mons. Banfi, 3  
21042 Caronno Pertusella (VA) – ITALY.  
Herewith declares that the control panel VIVAH is in conformity with the provisions of the following EC directives:  
Low Voltage Directive 73/23/EEC;  
EMC Directive 89/336/EEC.

Caronno Pertusella,  
21-10-2005

Fermo Bressanini  
(Chairman)  


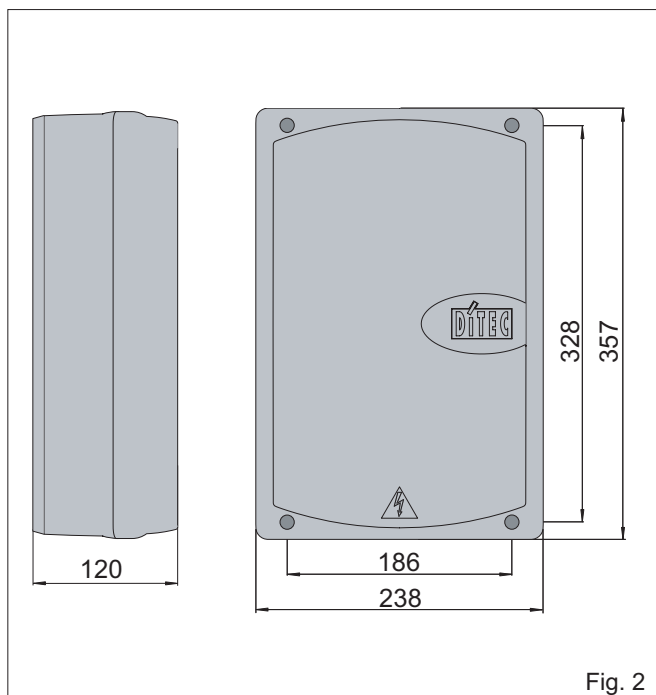
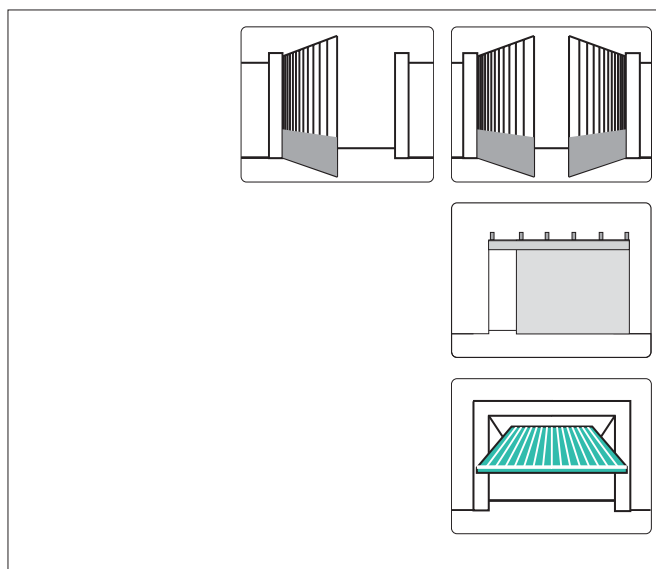


Fig. 2

**TECHNICAL DETAILS**

	VIVAH	VIVAHJ
Power supply	230 V~ / 50-60 Hz	120 V~ / 50-60 Hz
Fuse F1	F2A	F4A
Motors output	24 V= 2x12 A max	24 V= 2x12 A max
Accessories power supply	24 V= / 0,5 A	24 V= / 0,5 A
Temperature	-20° C / +55° C	-20° C / +55° C
Protection degree	IP55	IP55
Dimensions	238x357x120	238x357x120

**APPLICATIONS**



**All rights reserved**

All data and specifications have been drawn up and checked with the greatest care. The manufacturer cannot however take any responsibility for eventual errors, omissions or incomplete data due to technical or illustrative purposes.

# 1. POWER CONNECTIONS

## 1.1 Controls

Control		Function	Description
1  2	N.O.	AUTOMATIC CLOSURE	The automatic closure function is enabled by a permanent contact.
1  3	N.O.	OPEN	It starts the opening operation.
1  4	N.O.	CLOSE	It starts the closing operation.
1  5	N.O.	STEP BY STEP	It starts the closing or opening operation in sequence: open-stop-close-open. <i>Warning: if the automatic closure is enabled, the stop is not permanent but lasts for the time set by means of TC.</i>
1  6	N.C.	OPENING SAFETY	Stops or inhibits the opening movement by disengaging both door wings. Refer to TC settings chapter 1.3.
1  7	N.C.	CLOSING SAFETY	Stops or inhibits the opening movement by disengaging both door wings. Refer to TC settings chapter 1.3.
1  8	N.C.	REVERSAL SAFETY	Causes reopening movement during closing. If automation is stopped and jumper SO is closed, it inhibits all opening and closing operations. If automation is stopped and jumper SO is cut it inhibits only closing operation.
1  9	N.C.	STOP - CONTROL HOLD	Control 1-9 open stops the movement and enables the HOLD TO RUN function. In this case, the opening (1-3 / 1-20) and the closing (1-4) controls operate only if kept pressed, if released the automation will stop. Safeties, if present, trigger the stop whereas the step-by-step control and the automatic closing are disabled.
		EMERGENCY STOP	To achieve a complete stop following the opening 1-9 (for example the emergency stop), connect the opening controls to terminals 9-3, 9-20 and the closing controls to terminals 9-4 (fig. 2).
1  20	N.O.	PARTIAL OPENING	Start a partial opening operation of the leaf with motor 1, the duration of which is established by the RP trimmer, in sequence: partial opening - stop-close-partial opening. <i>Warning: if automatic closing is enabled, the stop is not permanent but at a time that is set by the TC.</i>
30			<b>DO NOT CONNECT - DO NOT USE</b>
<b>COUPLING BOARD (OPEN)</b>		STEP BY STEP / OPEN	The control panel has two spaces for coupling boards, types radio receivers, magnetic loops etc. The board's working is selected by the DIP1 (OFF = 1-5; ON = 1-3).

**WARNING:** Make a jumper among all the N.C. contacts if not used. The terminal bearing the same number are equivalent. The given operating and performance feature can be guaranteed only if original DITEC accessories and safety devices are used.

## 1.2 SOFA1-SOFA2 self-controlled safety edges

### FUTURE USE

### 1.3 Output and accessories







Output	Value	Description
1 • — + 0 • — -	24V= / 0,5 A	<b>Accessories power supply.</b> To power external accessories, including lamp automation status. Protected exit electronically.
0 • ⊗ 14	24V= / 50 W (2 A)	<b>Flashing (LAMPH) with DIP6=OFF.</b> It is activated upon opening or closing. For pre-operation warning light see DIP5. Output protected by fuse F2.
0 • ⊗ 14	24V= / 25 W max. (1 A)	<b>Courtesy light with DIP6=ON.</b> A courtesy light can be connected that will go on for 180 seconds on the receipt of each (total or partial) opening or closing command. Outlet protected exit by fuse F2.
0 • ⊗ 15	24V= / 1,2 A	<b>24 V electric block.</b> Output protected by fuse F2.
0 • ⊗ 15	12V~ / 15 W	<b>12 V electric lock.</b> Connect the supplied 8,2 Ω / 5 W resistance in series. Output protected by fuse F2.
1 • ⊗ 13	24V= / 3 W (0,125 A)	<b>Automation status lamp.</b> The light is off when automation is off and on when it is on. It flashes during opening and closing stages.

**Battery kit BATK2 (OPTIONAL).** By connecting the battery kit BATK2, operation is ensured in continuous mode, including in the case of a mains power break. The control panel only connects the battery in the presence of a mains supply and keeps it charged; the battery is used as a buffer or in case of power failure and is cut out automatically after voltage dropping to below 22V after 60 seconds (automation off). To charge the batteries, connect the mains and batteries kit at least 30 min. before starting the system. To disconnect the control panel, interrupt the power supply and disconnect the batteries.

*Warning: to allow recharging, the batteries kit must always be connected to the control panel. Periodically check that the battery kit is working efficiently.*

*Note: the rechargeable batteries' working temperature is about +5°C/+40°C. To ensure proper working of the product you should instal the batteries inside a climate controlled environment.*

### 1.4 Trimmer

Trimmer	Descrizione
<b>M1 (M2)</b> 	<b>Motor 1 (2) operating time adjustment.</b> From 5 to 30 s. (Or from 5 to 45 s. in reference to the formulations of the paragraph 1.6) The opening/closing manoeuvre is schematically shown in figures 4 and 5. The overall speed of the manoeuvre actually consists of two speeds: one set via VM of the duration of M1 (M2) and another, a steady slowing down speed both during opening and during closing. During opening this slow down lasts for up to a maximum of 10 s and during closing until there is closing impact or stop limit switch (FC=OFF).
<b>VM</b> 	<b>Movement speed adjustment.</b> Turning of the trimmer clockwise adjusts opening speed from a minimum to a maximum. Closing speed is about equal to that of opening.
<b>TR</b> 	<b>Delay time of motor 1 (M1) during the closing procedure adjustment.</b> During the closing procedure motor 1 (M1) is started after M2, with such delay being set via TR from 0 to 30 s. During the opening procedure motor 2 (M2) always starts 3 secs. after M1. <i>Warning: for automations with 2 overlapping wings, set TR&gt;3 secs.</i>
<b>TC</b> 	<b>Automatic closing time adjustment.</b> From 0 to 120 s (with 1-2 closed). The count starts when the automation is stopped for the time set by means of TC. With DIP2=OFF, after triggering a safety device (1-6/1-7/1-8), the count starts on release of the safety device (e.g. after transit through the photocells), and lasts for half the time set by means of TC. With DIP2=ON the count starts when the automation is open and lasts for the time set by means of TC. With 1-2 or 1-9 open, automatic closing is disabled. Closing 1-2 re-enables automatic closing. If disabled from 1-9, automatic closing is once again enabled, by contacts 1-9 being re-closed, only after a total, partial or step by step open command is given.
<b>RP</b> 	<b>Motor 1 (M1) partial opening adjustment.</b> Trimmer M1's partial percentage opening from 10% to 100%.
<b>R1</b> 	<b>Obstacle detection adjustment.</b> The control panel has a safety device so that, if there is any obstacle: on opening, before slow down, the movement is stopped by disengaging action; on closing, before slow down, the movement is reversed. During slow down, both on opening and on closing, the movement is stopped. With R1=MIN there is minimum push against obstacles. With R1=MAX there is maximum push against obstacles. (min. 0.75A/max. 3A = ArcBH, Obbi3BH) (min. 1.5A/max. 12A = Box3SH, Cubic30H, Luxo5BH, Dor1BH, Arc1BH)

## 1.5 Dip-Switches, jumpers

	Description	OFF /	ON /
DIP1	<b>Radio mode</b>	(*) Step by step (1-5)	Opens (1-3)
DIP2	<b>Automatic closing time renewal</b>	(*) 50%	100%
DIP3	<b>State of automation at start</b> It indicates how the electronic panel considers the automation at the moment of the start (or when supply comes back after a cut off), whatever the real position of the automation.	(*) Open.	Closed. Automatic closing cannot be the first control even if enabled. <i>Note: if automatic closing is not used you should set DIP3=ON.</i>
DIP4	<b>Electric lock release</b>	(*) Disabled.	Enabled (advised position where there is an electric lock).
	<b>Electric block function (24 V)</b> <i>Warning: only with jumper EO=OFF and with the BOX3SH and DOK-E type automation (see chapter 1.6).</i>	Powered for the entire opening and closing operation.	Powered only with the automation closed.
DIP5	<b>Pre-operation warning light (fixed at 3 s)</b>	(*) Disabled on opening. Enabled only with automatic closing with TC greater than 3 secs.	Enabled both during opening and closing.
DIP6	<b>Selection 0-14</b>	(*) Flashing.	Courtesy light.
EO	<b>Electric lock working</b>	Powered for 2.5 s at the beginning of the opening operation.	(*) Powered for 1.2 seconds at the start of the opening manoeuvre.
SO	<b>Safety 1-8 function</b>	The opening of contact 1-8 with automation stopped enables opening by means of controls 1-3, 1-5, 1-20 or radio remote control.	(*) The opening of contact 1-8 with automation stopped prevents any operation.
FC	<b>Limit switch mode selection</b>	Limit switch stop.	(*) Slow down limit switch.
OM	<b>Automation type</b>	Automation with one motor or with two motors in parallel. The output of motor 2 is the same as that of motor 1: (36→33; 35→32; 34→31).	(*) Automation with two independent motors.
NIO	<b>Electronic antifreeze system</b>	Cutting of the jumper automatically activates the system which permits motor running even at low temperatures. To properly operate, the electric panel must be at the same temperature as the motors.	(*) Disabled.
FS	<b>USO FUTURO</b>		

(\* Factory settings)

## 1.6 Motor type setting

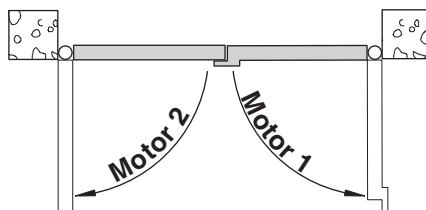
Automation type	S1	S2	S3	S4
Factory settings	(N.C.)	(N.C.)	(N.C.)	(N.C.)
Obbi3BH; ArcBH	(N.O.)	(N.C.)	(N.C.)	(N.C.)
Cubic30H; Cubic6H	(N.C.)	(N.O.)	(N.C.)	(N.C.)
Cubic30H + Cubic30LI (180°)	(N.C.)	(N.O.)	(N.O.)	(N.C.)
Luxo5BH	(N.C.)	(N.C.)	(N.O.)	(N.C.)
Box3SH	(N.C.)	(N.C.)	(N.C.)	(N.O.)
Arc1BH; Dor1BH	(N.C.)	(N.O.)	(N.C.)	(N.O.)
Facil3H	(N.C.)	(N.C.)	(N.O.)	(N.O.)
Dok-E	(N.O.)	(N.O.)	(N.C.)	(N.C.)

### 1.7 Indicators

LED	On	Flashing
<b>POWER ALARM</b>	24 V= power supply on.	Wrong motor type selection. A slow flashing (1 s) indicates possible missing motor(s) or a wrong indication of the number of available motors. A quick flashing (0,5 s) indicates a wrong selection of the type of automation (S1, S2, S3, S4). The total flashing duration is 10 secs, after which the control panel is automatically reset.
<b>SA</b>	Signals that a safety contact (1-6 / 1-7 / 1-8 / 1-9) is open.	Upon starting the LED flashes indicating the count of the operations which have been carried out: Each quick flashing = 1000 operations Each slow flashing = 10000 operations
<b>IN</b>	Switches on at each command 1-3, 1-4, 1-5, 1-20 and at each Dip-switch and jumper variation.	/

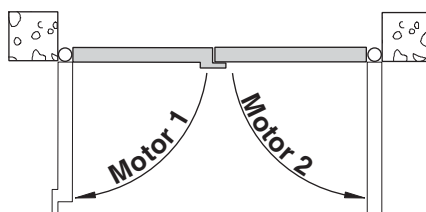
### 1.8 Motors connections

Motor 2	Control panel terminal board	
	34	36
Obbi3BH	Black	Blue
ArcBH-1BH	Brown	Blue
Cubic30H	Black	Blue
Cubic6H-6HV	Black	Blue
Luxo5BH	31 / 34	33 / 36
Facil3H	Blue	Black



Motor 1	Control panel terminal board	
	31	33
Obbi3BH	Blue	Black
ArcBH-1BH	Blue	Brown
Cubic30H	Blue	Black
Cubic6H-6HV	Blue	Black
Luxo5BH	31 / 34	33 / 36
Facil3H	Black	Blue

Motor 1	Control panel terminal board	
	31	33
Obbi3BH	Black	Blue
ArcBH-1BH	Brown	Blue
Cubic30H	Black	Blue
Cubic6H-6HV	Black	Blue
Luxo5BH	31 / 34	33 / 36
Facil3H	Blue	Black



Motor 2	Control panel terminal board	
	34	36
Obbi3BH	Blue	Black
ArcBH-1BH	Blue	Brown
Cubic30H	Blue	Black
Cubic6H-6HV	Blue	Black
Luxo5BH	31 / 34	33 / 36
Facil3H	Black	Blue

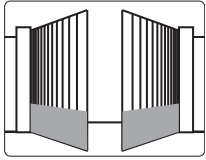


**ATTENTION**     *The operations relating to paragraph 2.4 are performed without safety devices.  
The trimmer, dip-switch and jumper can only be adjusted with gate not moving*

- 2.1 Make a jumper between the safety devices (1-6/1-7/1-8) and the STOP (1-9).
- 2.2 Before proceeding to start check the type of application chosen on the basis of the examples provided in the following paragraphs. Select the type of automation with jumpers S1-S2-S3-S4. If it is a single wing door automation cut the OM jumper.
- 2.3 Set TC and R1 at maximum and TR at minimum (or increase TR if the wing doors are overlapped).
- 2.4 Supply power. *Note: depending on the direction of opening of the leaves, the polarity of the motor may have to be reversed. Warning: the first closing manoeuvre after a break in power supply, if  $TR > MIN$ , is to be carried out on one door wing at a time (first the leaf moved by motor M2 and then the one moved by motor M1) and can take place at reduced speed (acquisition).*
- 2.5 When slow-down microswitches are fitted, adjust them for opening and closing and set M1 and M2 to maximum values.
  - Set VM and check opening and closing speeds by means of signals 1-3 and 1-4.
  - Warning: in case of wings slamming, adjust the microswitches so as to make them trigger sooner.*
- 2.6 When microswitches are not fitted, set M1 (M2) and VM to mid-values.
  - Set speed to desired value by acting on VM and check by means of signals 1-3 and 1-4.
  - Note: never send a new signal before the previous manoeuvre has been completed.*
  - Warning: the automation may strike against the stops .*
  - After having set the desired speed and checked it by means of signals 1-3 and 1-4, adjust the operating time M1 (M2) so that the wings come softly at low speed against the stops.
  - It is advisable to set a slow down time that will ensure the manoeuvre's completion, even where there is friction or other adverse environmental conditions such as wind or frost etc..
  - Note: in order to compensate for any reduction in speed and to ensure best operating conditions it is important that the automation comes to rest against the stop before the motor comes to a halt.*
- 2.7 Remove the jumpers and connect the safety devices (1-6/1-7/1-8) and the stop (1-9). Make sure they are working properly.
- 2.8 If necessary, adjust with TR the delay time of motor 1.
- 2.9 If desired, connect 1-2 and adjust the automatic closure with TC.
- 2.10 Set the thrust on obstacles with R1.
  - Warning: if the leaf that closes last ( $TR > MIN$ ) encounters an obstacle, both leaves open again. The following manoeuvre is performed one leaf at a time.*
  - Note: check that the operating force of the leaves conform to that stipulated by the EN12453-EN12445 standards.*
- 2.11 If desired, set the partial opening time of motor 1 with RP.
- 2.12 Re-close the container by means of the 4 screws.

## 3. TROUBLESHOOTING

Problem	Possible cause	Remedy
The automation does not open nor close.	No power supply.	Make sure the control panel is powered (the POWER ALARM LED must be on steady).
	Motor(s) not connected.	Check the motor(s) connection and the OM jumper (POWER ALARM LED flashing).
	Wrong selection of automation type.	Check the correct selection of jumpers S1, S2, S3, S4 (POWER ALARM LED flashing).
	Accessories short circuit.	Disconnect all the accessories from the terminals 0-1 (24V DC is required) and reconnect these one at a time.
	Line fuse is burnt.	Replace fuse F1.
	Safety controls are open. (SA LED is lit).	Make sure contacts 1-6, 1-7, 1-8 and 1-9 are closed (N.C.). With a tester, make sure the power supply is 24V DC between 0-6, 0-7, 0-8 and 0-9.
	The open/close controls fail to work.	Check that the LED IN goes on at each 1-3, 1-4, 1-5, 1-20 command.
The automation opens but does not close.	Safety controls are open. (SA LED is lit).	Make sure contacts 1-6, 1-7, 1-8 and 1-9 are closed (N.C.). With a tester, make sure the power supply is 24V DC between 0-6, 0-7, 0-8 and 0-9.
	The photocells are triggered. (SA LED on).	Check that the photocells are clean and work properly.
External safety devices fail to operate.	Automatic closing does not work.	Check that contact 1-2 is closed.
	Wrong connections between the control panel and the photocells.	Connect N.C. safety contacts in series and remove any jumpers on the terminal block of the electric control panel.
The flashing light is not working. The electric lock is not working.	Fuse F2 burnt out.	Replace fuse F2.



When control panel VIVAH is used for two-leaf swing automations, the following connections can be made:

(Fig. 4.1) Use without limit switches

Connect the motors as shown in the diagram.

Note: during the opening operation, the +/- polarities are those indicated in the diagram.

Set the VM to the desired speed.

Set M1 and M2 so as to obtain slow down of the door wing before the mechanical stop.

With the above connections each wing stops on the opening and closing mechanical stop.

When the time set with M1/M2 runs out: on opening the slow down time is a maximum of 10 seconds, on closing the wings slow down until they reach the mechanical stop.

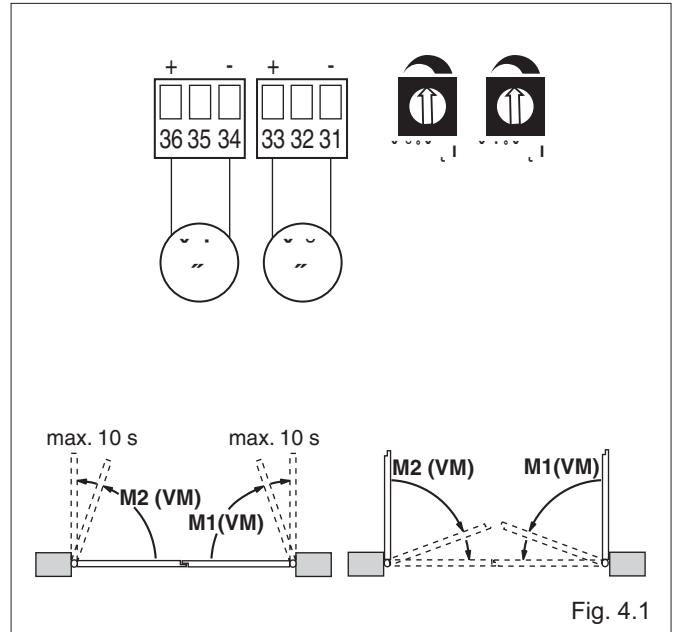


Fig. 4.1

(Fig. 4.2) Use with slow down limit switch.

Connect the motors and slow down limit switches as shown in the diagram.

[A] The slow down limit switch opens;

[C] The slow down limit switch closes.

Set M1 and M2 = MAX.

Set the VM to the desired speed.

With the above connections each wing stops on the opening and closing mechanical stop.

After the slow down limit switch has been triggered: on opening and on closing the max slow down time is 10 secs.

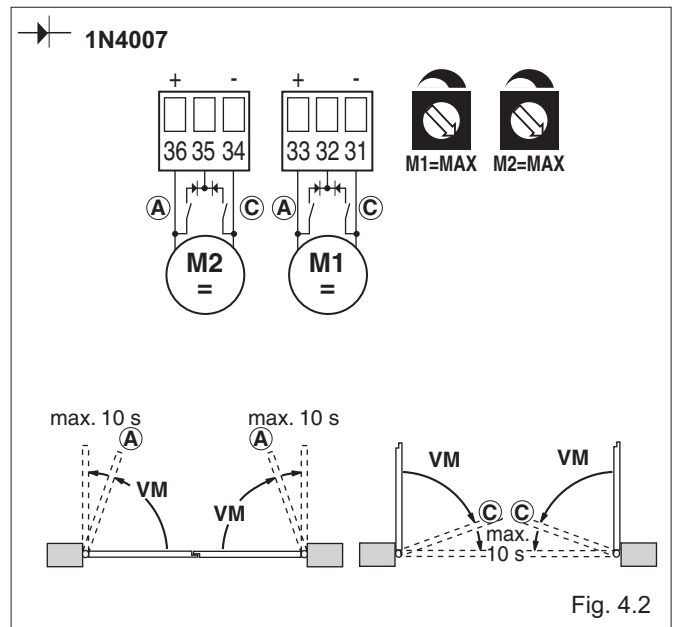


Fig. 4.2

(Fig. 4.3) Use with a stop limit switch.

Remove jumper FC.

Connect the motors and stop limit switches as shown in the diagram.

[A] The stop limit switch opens;

[C] The stop limit switch closes.

Note: a single limit switch can be installed for each motor.

Set M1 and M2 < MAX.

Set the VM to the desired speed.

Set M1 and M2 so as to obtain slow down of the door wing before the limit switch is triggered.

With the above connections, when the limit switches operate each wing stops.

When the time set with M1/M2 runs out: on opening, the slow down time is a maximum of 10 seconds, on closing the wings slow down until they reach the stop limit.

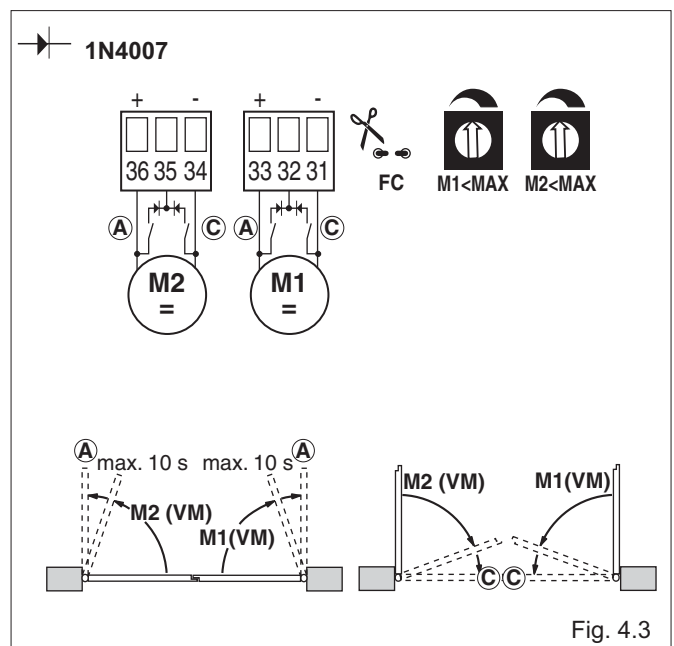
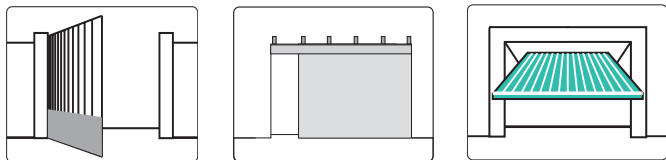


Fig. 4.3

## GB 5. APPLICATION EXAMPLE FOR SINGLE MOTOR AUTOMATIONS



When the control panel VIVA H is used for automation applications for one wing doors, for sliding doors or for swing doors, the following connections may be made:

### - (Fig. 5.1) Use without limit switches

Remove jumper OM.

Connect the motor as shown in the diagram.

Note: during the opening operation, the +/- polarities are those indicated in the diagram.

Set the VM to the desired speed.

Set M1 so as to obtain slow down of the door wing before the mechanical stop.

With the above connections the wing stops on the opening and closing mechanical stop.

When the time set with M1 runs out: on opening the slow down time is a maximum of 10 seconds, on closing the wing slows down until it reaches the mechanical stop.

### - (Fig. 5.2) Use with slow down limit switch

Remove jumper OM.

Connect the motor and slow down limit switch as shown in the diagram.

[A] The slow down limit switch opens;

[C] The slow down limit switch closes.

Set M1 = MAX.

Set the VM to the desired speed.

With the above connections the wing stops on the opening and closing mechanical stop.

After the slow down limit switch has been triggered: on opening and on closing the max slow down time is 10 secs.

### - (Fig. 5.3) Use with a stop limit switch

Remove jumpers OM and FC.

Connect the motor and slow down limit switch as shown in the diagram.

[A] The stop limit switch opens;

[C] The stop limit switch closes.

Note: a single limit switch can also be installed.

Set M1 < MAX.

Set the VM to the desired speed.

Set M1 so as to obtain slow down of the door wing before the limit switch is triggered.

With the above connections, the wing stops when the limit switch operates.

When the time set with M1 runs out: on opening, the slow down time is a maximum of 10 seconds, on closing the wing slows down until it reaches the stop limit switch.

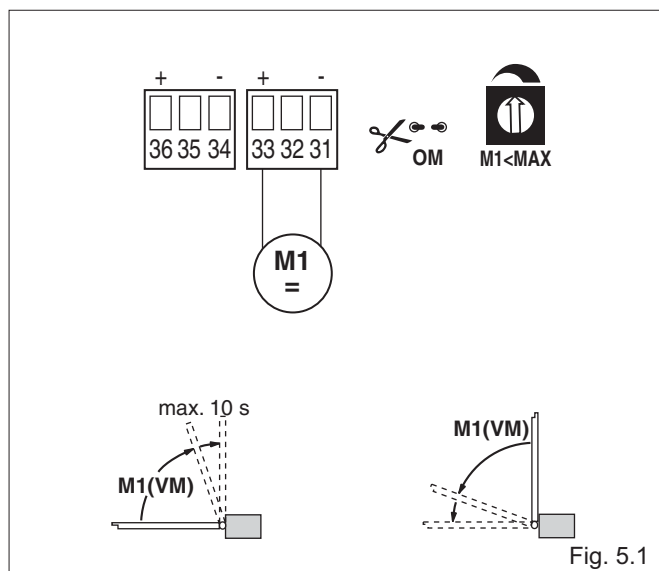


Fig. 5.1

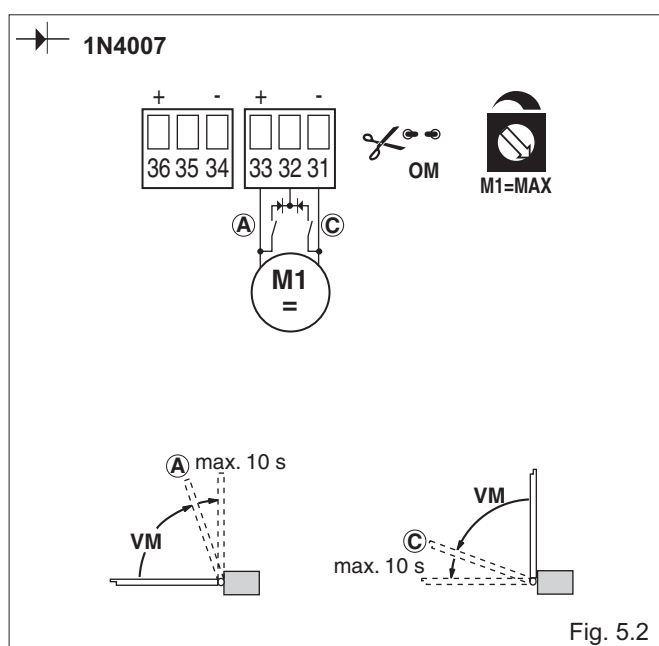


Fig. 5.2

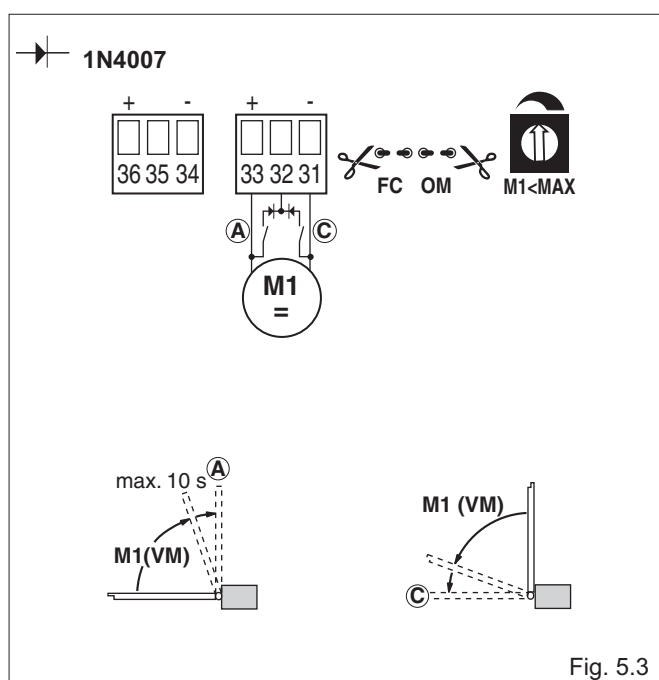
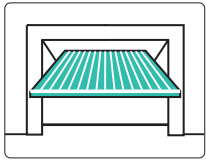


Fig. 5.3



When the control panel VIVAH is used for automation applications for swing doors with two parallel motors, the following connections may be made:

**(Fig. 6.1) Use without limit switches**

Remove jumper OM.

Connect the motors as shown in the diagram.

*Note: during the opening operation, the +/- polarities are those indicated in the diagram.*

Set the VM to the desired speed.

Set M1 so as to obtain slow down of the door wing before the mechanical stop.

With the above connections the wing stops on the opening and closing mechanical stop.

When the time set with M1 runs out: on opening the slow down time is a maximum of 10 seconds, on closing the wing slows down until it reaches the mechanical stop.

**(Fig. 6.2) Use with slow down limit switch**

Remove jumper OM.

Connect the motor and slow down limit switch as shown in the diagram.

[A] The slow down limit switch opens;

[C] The slow down limit switch closes.

Set M1 = MAX.

Set the VM to the desired speed.

With the above connections the wing stops on the opening and closing mechanical stop.

After the slow down limit switch has been triggered: on opening and on closing the max slow down time is 10 secs.

**(Fig. 6.3) Use with a stop limit switch**

Remove jumpers OM and FC.

Connect the motor and slow down limit switch as shown in the diagram.

[A] The stop limit switch opens;

[C] The stop limit switch closes.

*Note: a single limit switch can also be installed.*

Set M1 < MAX.

Set the VM to the desired speed.

Set M1 so as to obtain slow down of the door wing before the limit switch is triggered.

With the above connections, the wing stops when the limit switch operates.

When the time set with M1 runs out: on opening, the slow down time is a maximum of 10 seconds, on closing the wing slows down until it reaches the stop limit switch.

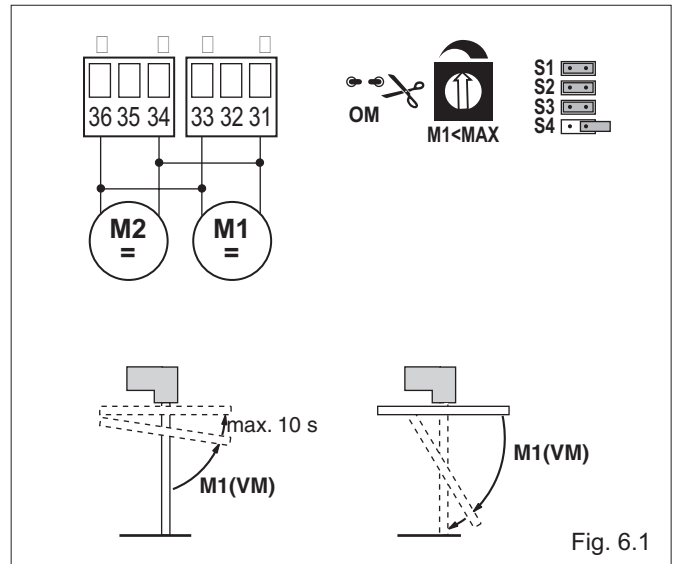


Fig. 6.1

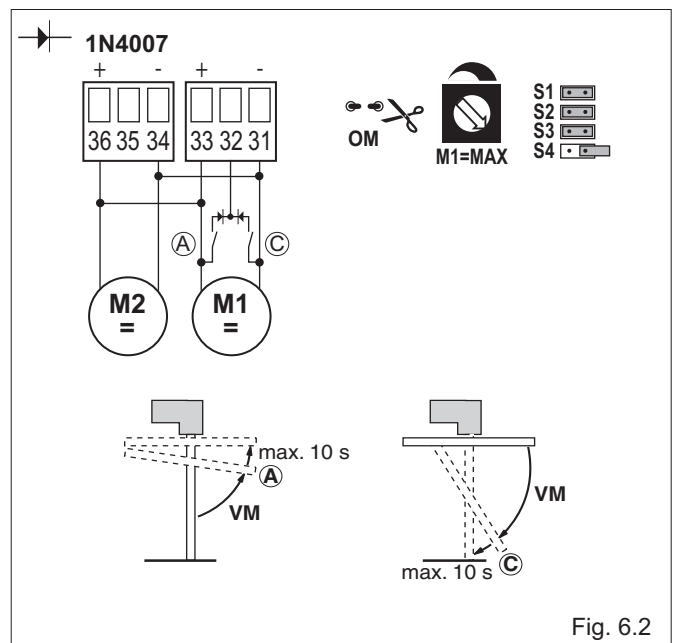


Fig. 6.2

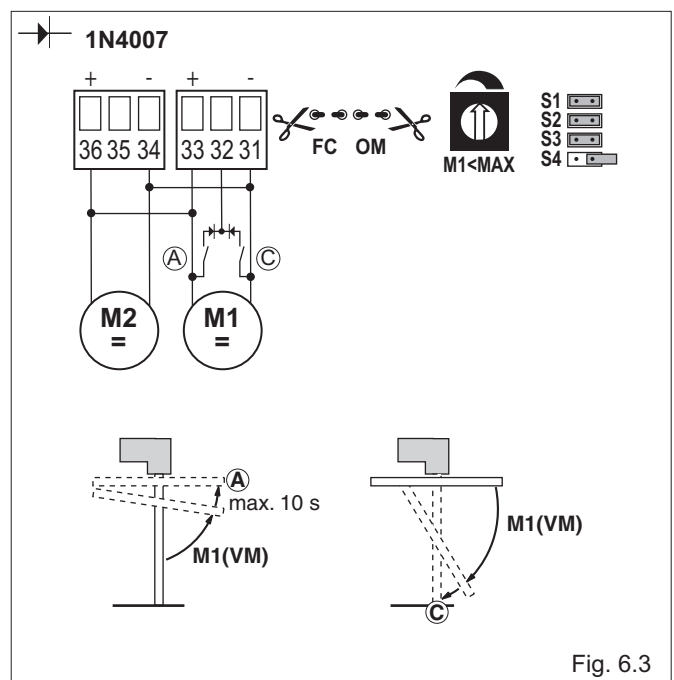


Fig. 6.3

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