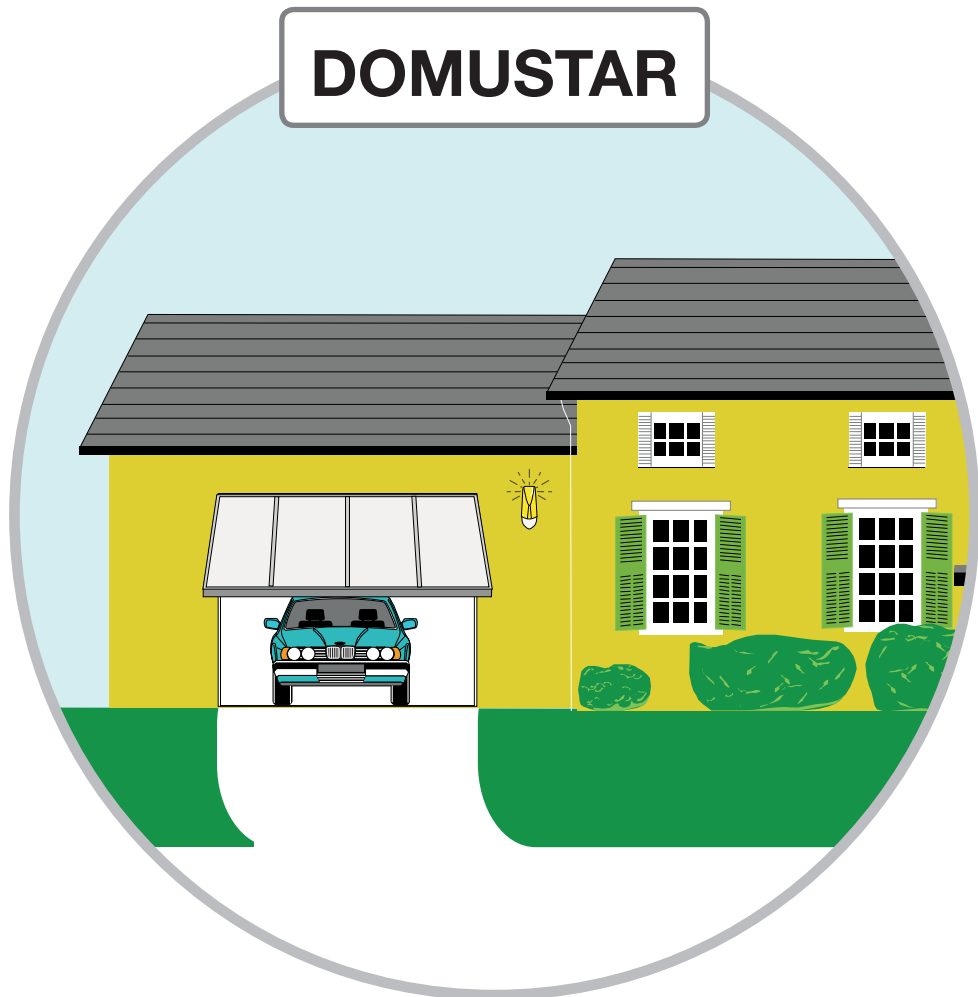




AUTOMATION FOR GARAGE DOOR

DOMUSTAR

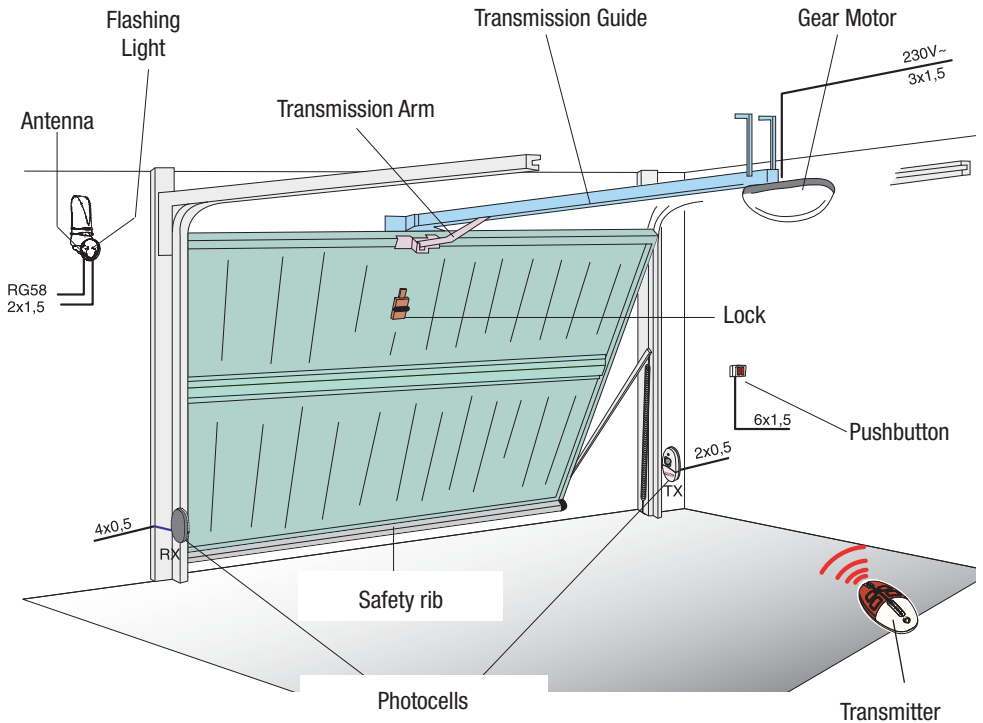


INSTALLATION MANUAL

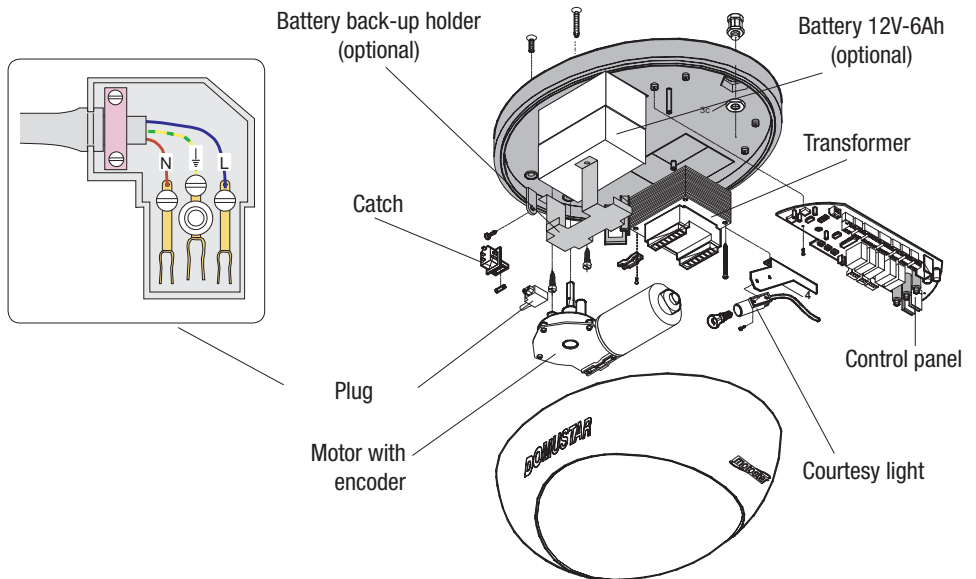
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1.0 DESCRIPTION OF THE PARTS FOR INSTALLATION



1.1 DESCRIPTION OF THE PARTS OF THE MOTOR



2.0 GENERAL CHARACTERISTICS

Pull automation for counter-weighted garage-type spring and sectional closures, with 230V AC power supply with IP40 protection, equipped with:

- self-learning of the code between transmitter and radio receiver;
- chain transmission guide (pre-assembled in two pieces) fixed in the centre of the door for a regular and constant door movement;
- incorporated amperometric safety device that, when an obstacle is encountered, reverses the movement of the closing door and the stops it if opening, with speed reduction in the final opening and closing approach;
- Possibility of turning the gearmotor unit depending on the space available in the ceiling (lights, ceiling lowering);
- colored terminal boards to identify the various accessories and to simplify connections;
- Signalling LEDs: power present, programming and safety tests;
- emergency release facilitated by a practical hand release or string applied to the lock if the garage does not have a second entrance;
- lamp, garage entrance;
- dedicated exit for connecting a supplementary 24V-25W lamp;

2.1 GENERAL CHARACTERISTICS OF THE MOTOR

24V DC gearmotor.

Reduction gear unit housed in a die-cast aluminium casing. The unit features an irreversible reduction gear with worm screw and helicoidal. Permanently lubricated with liquid grease.

Power Supply: 230V AC. - 50/60Hz

Speed of rotation motor: 50 turns/min

Power: 130W

Absorbed current : 6A max

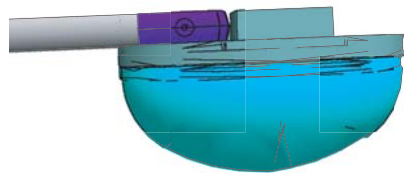
Torque: 500Nm

Average speed: 6m/min

Maximum useage: 60 cycles per hour

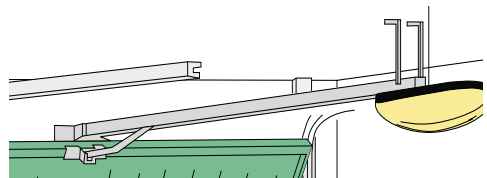
Operating temperature: -20° +55°C

Weight: 5.8 kg

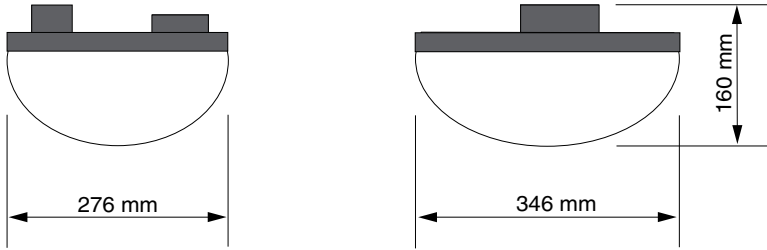


2.2 CHARACTERISTICS OF THE TRANSMISSION GUIDE

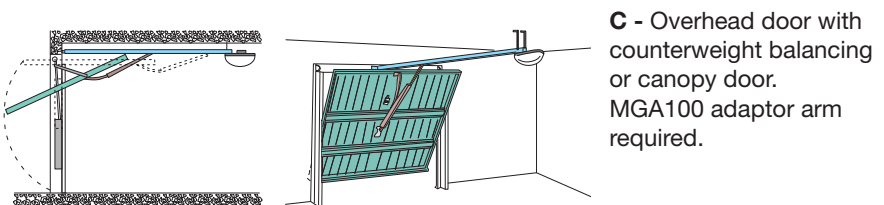
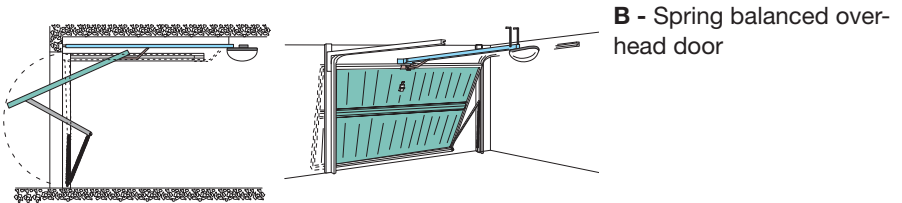
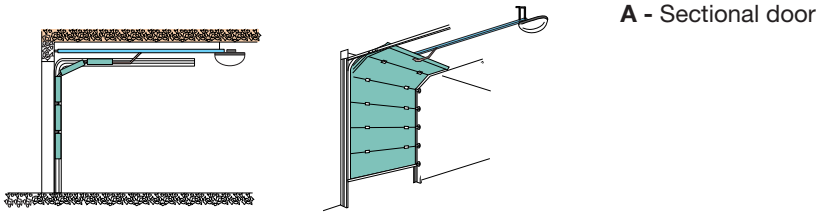
Galvanised cold-formed plate sliding rail; front tensioning and fastening wall terminal; ABS back motor unit support and connector terminal. The rail has a built-in emergency release device and the transmission arm's hook; the rail has holes for possible co-nenction of additional brackets.



2.3 EXTERNAL DIMENSIONS

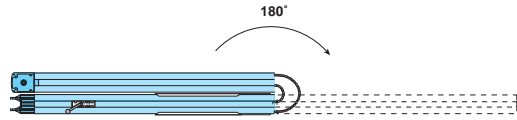


3.0 EXAMPLES OF APPLICATION

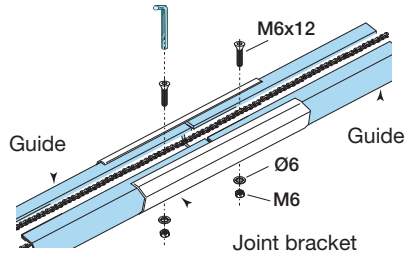


PREPARING THE TRASMISSION GUIDE

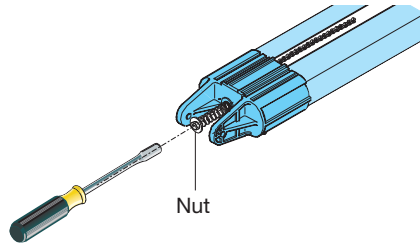
- Turn the guide 180° as indicated in the figure;



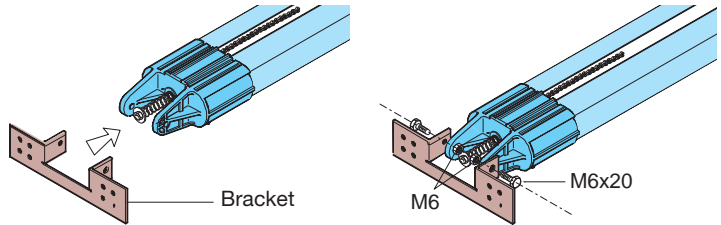
- Insert the joint bracket into the guide and fix it with the screws supplied;



- Adjust the chain tension using the nut.
NB: the chain must be held under tension;



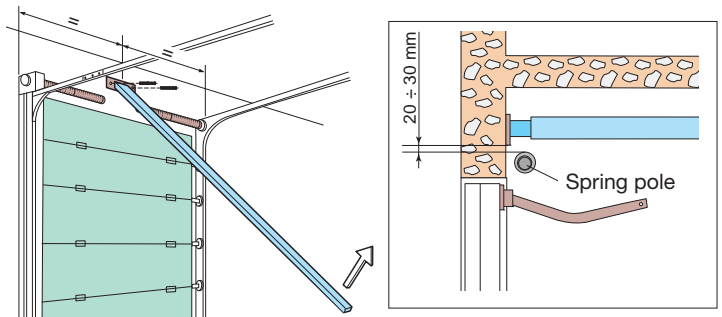
- Secure the bracket on the front terminal of the transmission guide with the screws supplied;



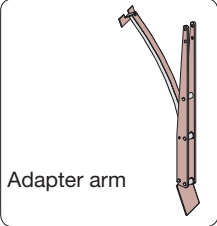
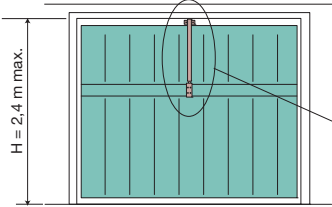
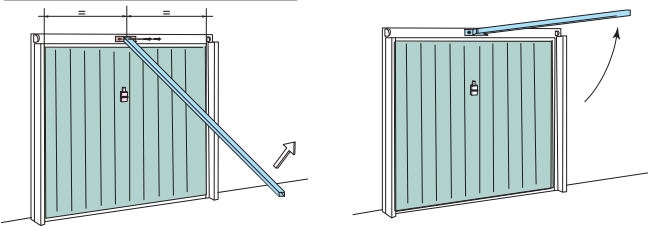
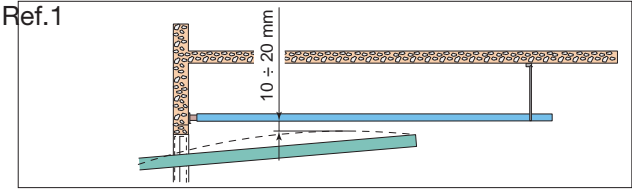
FIXING THE TRASMISSION GUIDE

- Secure the transmission guide in the following way:

a) for the **sectional doors**, fix the bracket directly on the wall above the spring pole, by using suitable anchors or screws;



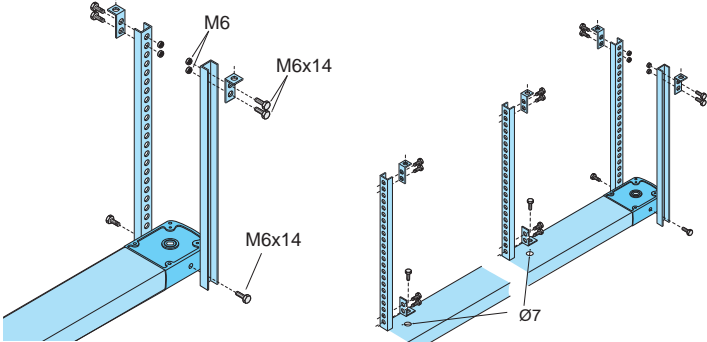
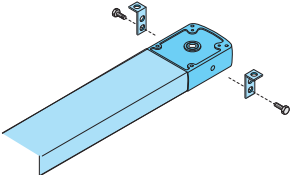
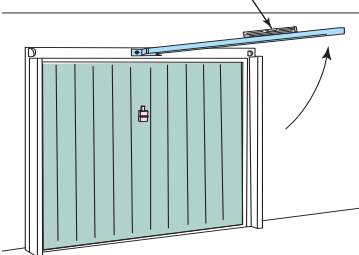
b) for the **counter-weighted garage-type doors and a springs**, check the point maximum of sliding of the wing (Ref. 1) and secure the bracket on the fixed frame, with suitable screws or rivets. Please note: for counter-weighted over-edge garage-type doors, the adapter arm must be used;



- Raise the guide, moving it to a horizontal position to measure the distance from the ceiling; then fix the “L” brackets or fixing brackets supplied to the rear terminal of the guide (cutting off any excess).

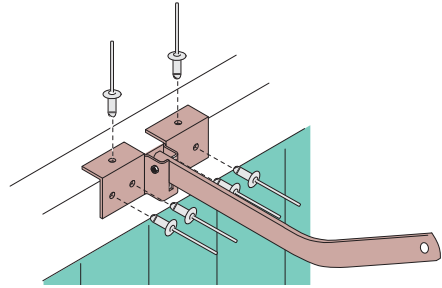
N.B. the transmission guide has 3 holes dia.7 for further fixings if the unit needs further reinforcement.

- Raise and secure the transmission guide to the ceiling, levelling it off.
 - Prepare the track for the electrical connections.

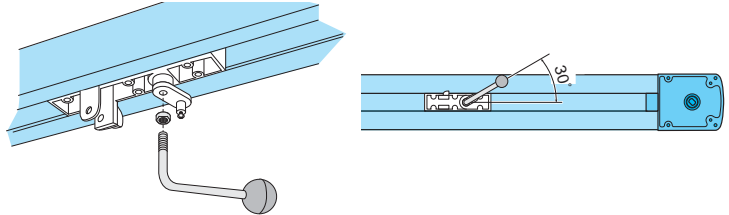


FIXING THE DRAG LEVER

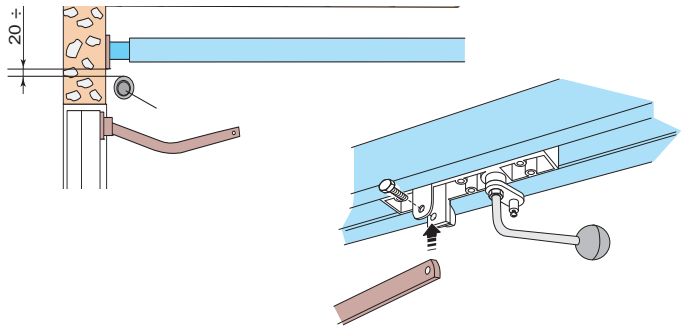
- Secure the transmission arm centrally to the upper traverse of the door using the rivets supplied;



- Assemble the release knob tightening it on the pawl of the pre-assembled release unit and secure it in the recommended position with the lock nut;



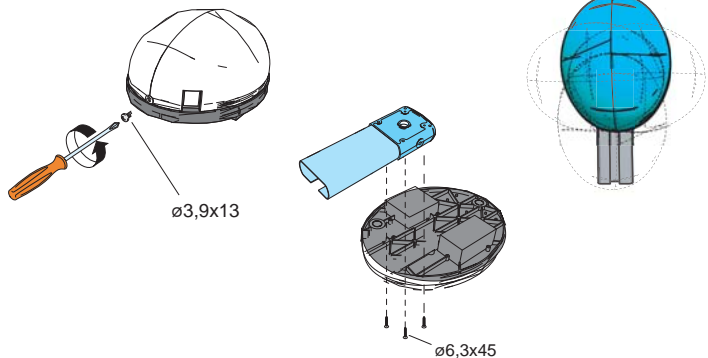
- Move the sliding runner and, after disassembling the pre-assembled screw, secure it to the transmission arm.



INSTALLING THE GEARMOTOR

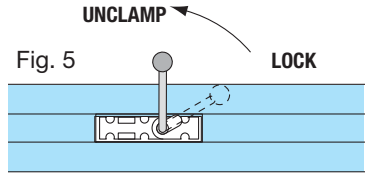
- Remove the lid of the automation container by unscrewing the screw diam. 3.9x13;

- Secure the gearmotor on the rear terminal of the drag guide in the position desired using the three screws diam. 6.3x45 supplied;

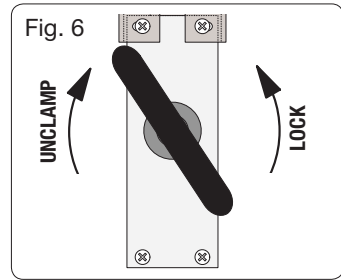


RELEASING THE GEARMOTOR

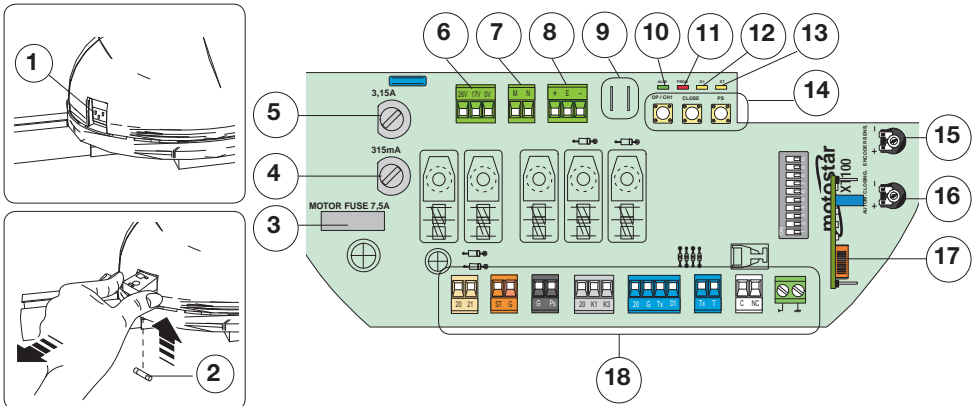
- Unscrew the knob by turning it in the direction illustrated (fig. 5); the re-activation of the release will take place automatically at the first manoeuvre, by returning the knob to the initial position.



- If there is the cord-operated release device (for assembly, consult the technical documentation enclosed with the accessory), to lock and release the gearmotor turn the handle as illustrated (fig. 6).



5.0 MAIN COMPONENTS OF THE CONTROL BOARD



- | | |
|---|---|
| <p>1 - 230V power supply plug</p> <p>2 - Mains fuse 1.6A</p> <p>3 - Motor fuse 7.5A</p> <p>4 - Control unit fuse 315mA</p> <p>5 - Accessories fuse 3.15A</p> <p>6 - Transformer-connecting terminal board</p> <p>7 - Gearmotor-connecting terminal board</p> <p>8 - Encoder-connecting terminal board</p> <p>9 - Connectors for connecting courtesy light</p> <p>10 - LED notifying voltage presence</p> <p>11 - LED notifying programming</p> <p>12 - LED notifying photoelectric cells contact open</p> | <p>13 - LED notifying contact open of the stop button</p> <p>14 - Buttons for code memorizing and encoder programming</p> <p>15 - Trimmer for adjusting amperometric sensitivity</p> <p>16 - Trimmer for adjusting automatic closing time</p> <p>17 - Radiofrequency board coupling</p> <p>18 - Fittings and commands connecting terminal board</p> |
|---|---|

5.1 CONTROL BOARD DESCRIPTION

The board is powered by a power supply socket (230V AC) and is protected in input by a 1.6A mains fuse. The control devices are low-voltage and protected by a 3.15A fuse. The overall rated power of the 24V accessories, protected by 3.15A fuse, must not exceed 40W.

Work time set at 80 seconds.

Commands

- Total stop, pushbutton connected to the ST-G terminals, stop of the overhead door with exclusion of the automatic closing cycle; to resume movement, the pushbuttons or radio-controls must be used;
- Opening-closing, pushbutton connected to G-Ps or by radio-control, see page 14, function selections;

Safety

- Re-opening during closure, see function selections;
- Photoelectric cell test. Function selections dip switch 9 ON;
- Amperometric device : see NOTE.

Other functions

- Automatic closure, see function selections;
- Obstacle detection, see function selections;
- Pre-flashing, see function selections;

Connected accessories

- Courtesy light (24V-25W). Lamp that lights up the manoeuvre zone after an opening command; it remains on for a set time of 2 mins. 30 secs.

Optional accessories

- 2^a courtesy light (24V-25W), connected to the 20-K3 terminals.
- Flashing light indicating movement (24V-25W max.), connected to the 20-K1 terminals;
- Board for supplying power by battery that, in the event of blackout, intervenes automatically. When mains comes back on, it recharges the batteries;
- Radiofrequency board for remote control.

Adjustments

- Adjustment of automatic closing time;
- Adjustment of amperometric sensitivity.

Important: after supplying electricity to the system, the 1st manoeuvre is always an opening one. During this phase, it is not possible to close the door, but it is possible to close it again after the complete opening manoeuvre.



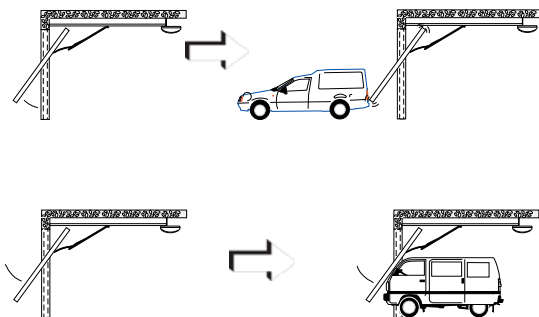
Important! Shut off the mains power before servicing the inside of the unit.

NOTE

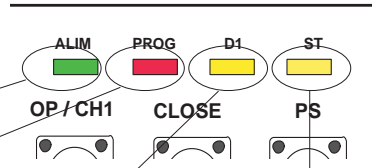
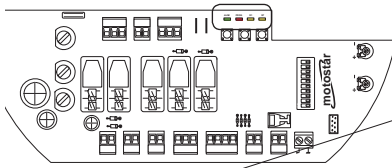
In the presence of an obstacle, the amperometric device:

- completely stops the door during opening and subsequently closes it automatically (if activated);
- if in the closure phase, the movement of the door is reversed.

N.B.: In situation (b), if an obstacle is detected three times, the door wing stops during aperture, and automatic closure is deactivated. Use the keyboard or the radio transmitter to resume movement of the bar.



5.2 CONTROL LED FUNCTIONS



GREEN LED «ALIM»

Signals that the control board is powered

RED LED «PROG»

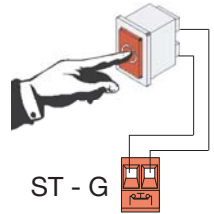
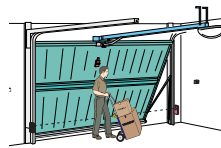
With slow intermittent flashing, signals that the radio code has been stored.
With rapid intermittence and D1/ST LED on, it signals the presence of an obstacle and/or the malfunctioning of the photoelectric cells and stop button.

YELLOW LED «D1»

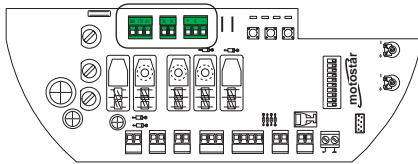
Signals the presence of an obstacle between the safety photoelectric cells.

YELLOW LED «ST»

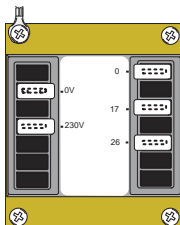
Comes on every time the “total stop” button is pressed.



5.3 ELECTRICAL CONNECTIONS



Transformer

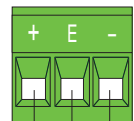
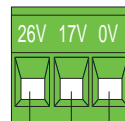


White
Red
Blue

Motor (24V d.c.) with Encoder

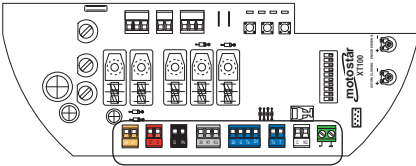


Green
Red
White
Brown
Blue

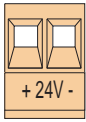


Motor

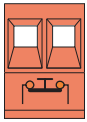
Encoder



N.B. All the contacts and push-buttons normally closed (N.C.) which are not used must be disabled by dip-switch or short-circuited.



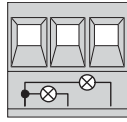
20 21



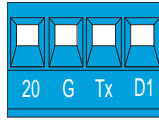
ST G



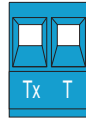
G Ps



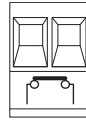
20 K1 K3



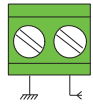
20 G Tx D1



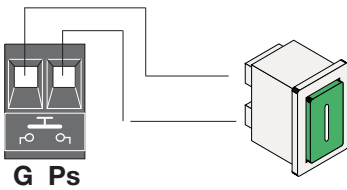
Tx T



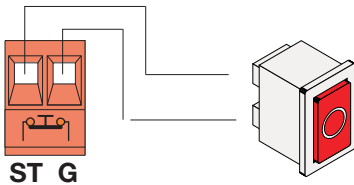
C NC



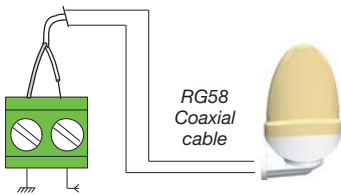
CONNECTIONS FOR COMMAND ACCESSORIES



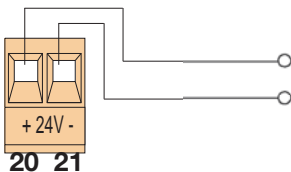
«Control» Pushbutton (N.O.), for the door opening and closing (see dip-switch 2-3 function selections)



«Stop» Pushbutton (N.C.). Stops the overhead door with the exclusion of the automatic closing cycle. To resume the movement, click the Control button.

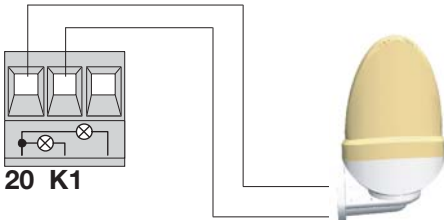


Incorporated reception antenna in the flashing lamp for using the remote control

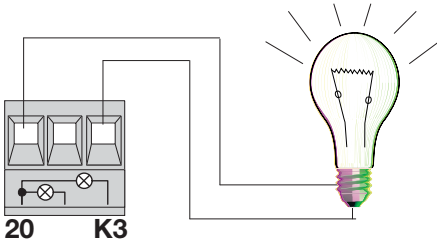


Power supplies to other accessories (max 4W)- 24V (AC. - DC.)

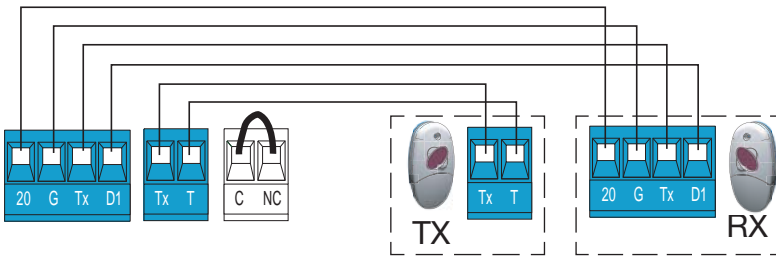
CONNECTIONS FOR SAFETY ACCESSORIES



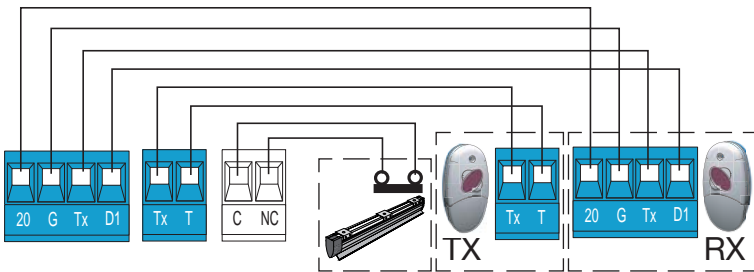
Flashing lamp (24V-25W). Flashes during movements of the overhead door with possibility of pre-flashing, see function selections dip switch 4 ON.



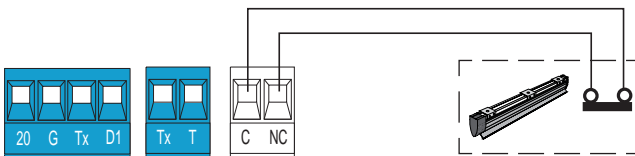
Courtesy light (24V-25W). Lights up the manoeuvre zone after an opening command; remains on for a set time of 2' and 30".



Connection with an pair of **photoelectric cells during re-opening**

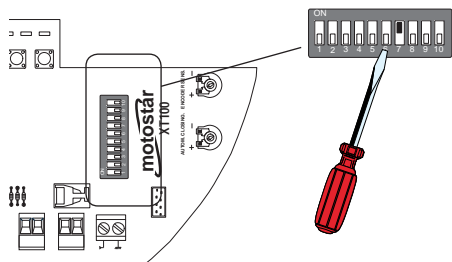


Connection with an pair of **photoelectric cells during re-opening and possible safety rib** (remove the bridge wire)



Connecting with a **safety rib** by using only the C-NC terminals (remove the bridge wire and dip-switch No. 7 in ON).

5.4 FUNCTION SELECTIONS



Select the functions by setting the dip switch to ON or OFF using a screwdriver, as indicated in the figure.

By default, Dip switch 7 is set to "ON".



1 ON Automatic closure **activated**; the automatic closure timer self-powers at the end stroke on opening. The adjustable pre-set time however depends on whether any safety accessories intervene and it is discontinued after a "stop" or when no power is available;



2 ON "Open-stop-close-stop" with pushbutton (G-Ps) and radio-control (radio board inserted) **activated**;



2 OFF "Open-close" with pushbutton (G-Ps) and radio-control (radio board inserted) **activated**;



3 ON "Open only" with radio-control (radio board inserted) **activated**;



4 ON "Pre-flashing during opening/closing **activated**"; after an opening or closing command, the flashing lamp connected to 20-K1, flashes for 5 seconds before the manoeuvre begins;



5 ON Obstacle detection with motor at limit switch **activated**; with motor not running (door closed, open or after a total stop command), stops any movement if the safety devices (e.g. photoelectric cells) detect an obstacle;



6 Not used, keep the dip switch in "OFF" position;



7 OFF Re-opening during closure **activated**; insert the safety device (see photocells connection) if the photoelectric cells detect an obstacle during door closing, the movement direction reverses until the door is fully opened;



8 ON End-stop programming **activated**; enables the procedure for adjusting the opening and closing end runs;

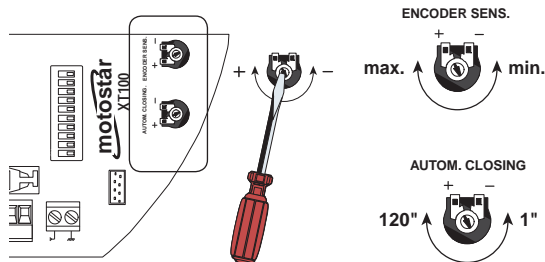


9 ON Photoelectric cells test **activated**; upon every opening and closing command of the overhead door, the control unit checks the efficiency of the photoelectric cells;



10 Not used, keep the dip switch in the «OFF» position;

5.5 ADJUSTMENTS



Trimmer ENCODER SENS. = Adjustment of amperometric sensitivity.

Trimmer AUTOM. CLOSING. = Automatic closure time adjustment.

5.6 ENCODER PROGRAMMING

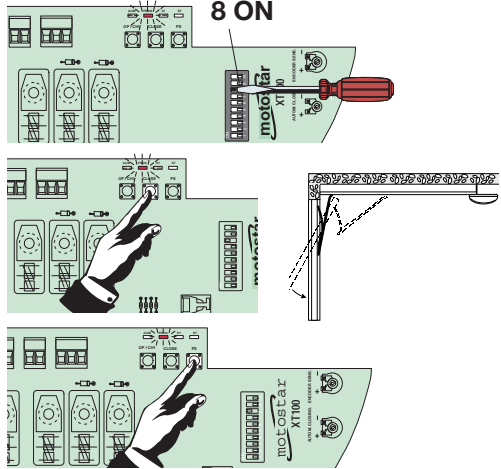
IMPORTANT: READ THE INSTRUCTIONS CAREFULLY BEFORE PERFORMING PROGRAMMING.

Closure limit switch

Set dip-switch 8 to ON: the signalling LED flashes.

Press the "CLOSE" button and allow the overhead door to reach the limit switch when it closes.

Press the "PS" button: the signalling LED remains on to indicate that the closing end-stop has been saved.

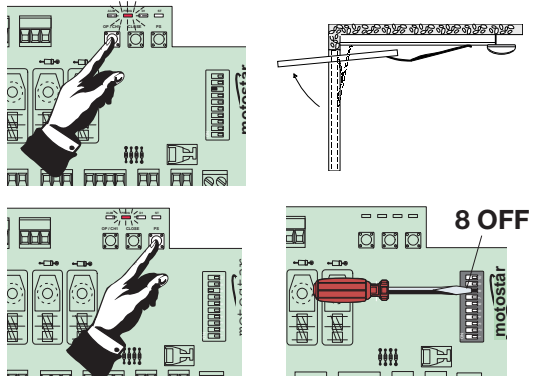


Opening limit switch

Press the "OP/CH1" button and allow the door to open fully.

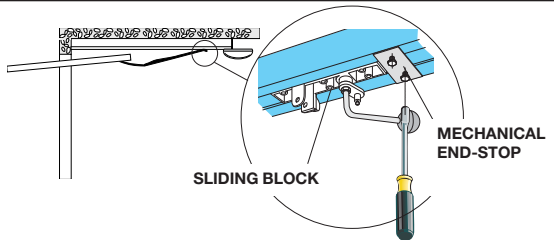
Press the "PS" button: the signalling LED remains on to indicate that the opening limit switch has been saved (see **Note 1**).

Return dip-switch 8 to OFF (see **Note 2**).



Mechanical END-STOP

With the door open, position the limit switch in the transmission guide on the sliding runner and secure it with the screws.



Note 1

If you press the "OP/CH1" button twice again within 15", you will disable the opening and closing slow-downs; after pressing it for the 2nd time, the LED will start to flash again.

Note 2

If after the repositioning dip switch 8 the LED begins to flash rapidly, you will have to repeat the procedure from the beginning.

General notes

During programming make sure you have first saved the closing limit switch, otherwise the data will not be saved.

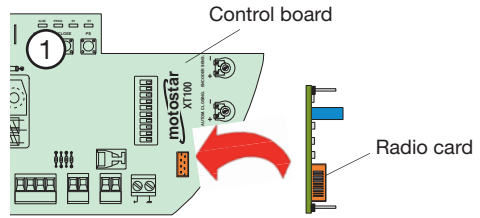
Should the encoder malfunction or not be correctly connected, when the opening or closing command is given, the motor moves for a short section, after which it stops, to signal the anomaly with a continuous slow LED flashing. In this case, you must turn off the power to the board and turn it on again.

6.0 PROGRAMMING THE RADIO CODE

If replacing the control board or the radio card, you need to memorise the radio codes again, as explained below.

Inserting the radio card

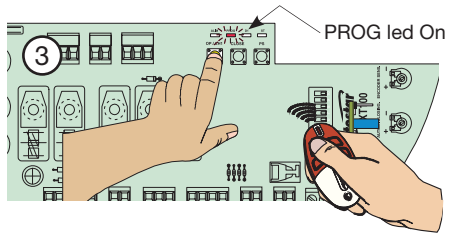
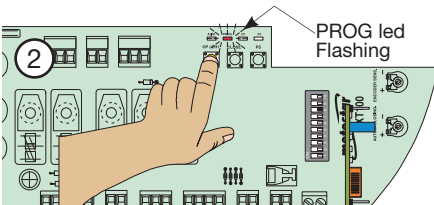
You **MUST** insert it when the main power is off, because the control board will recognise it only when the it is powered up.



Memorising the code

Keep the "CH1" button pressed on the control board: the signalling led starts flashing, ...

... now, with a transmitter button send the radio code: the LED will stay on to indicate the code has been memorised.



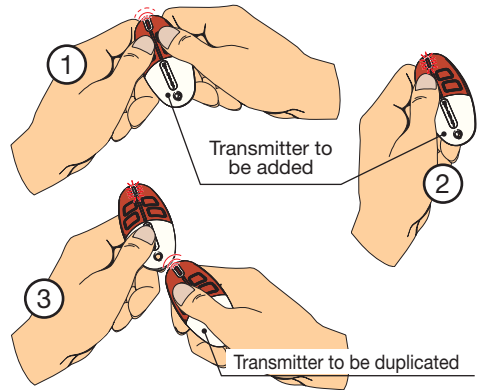
Duplicating transmitters

Clickstar is already coded. To add transmitter to those already supplied, follow this duplication procedure:

- 1 - press the first two button simultaneously until the LED flashes quicker;
- 2 - now press the button to be activated (the LED will come ON);
- 3 - within 10 seconds, rest the active transmitter against its back part and press down on the button to be duplicated.

After saving, the LED will flash 3 times and transmitter will be ready to use.

If necessary, repeat steps 1, 2 and 3 for the other buttons.



7.0 PERIODIC MAINTENANCE

The unit requires no specific maintenance as such but we recommend that periodically the moving parts (wheels etc.) and the door-arm pins are lubricated and that the chain's tension is checked and adjusted as necessary.

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These instruction illustrate and describe one or more typical installations. For specific applications, which are not mentioned herein, our technicians are available to advise you.