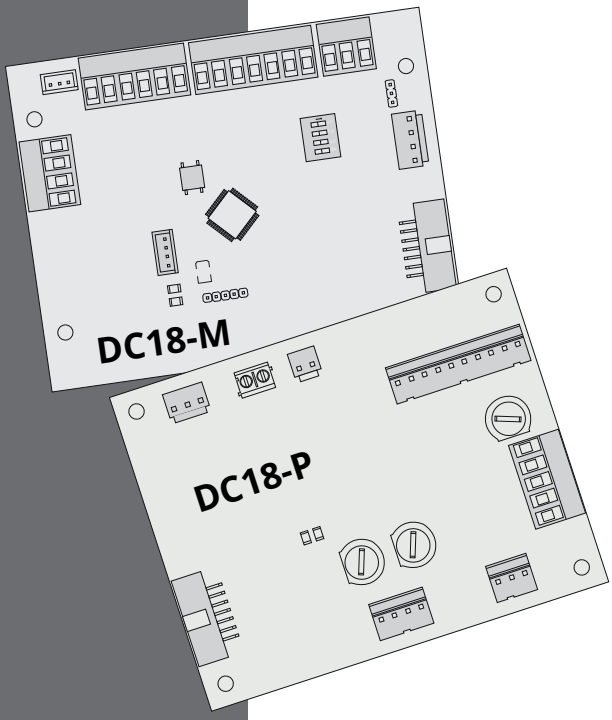
>MOVING LIFE

INSTALLATION GUIDE
GUIDA ALL'INSTALLAZIONE
NOTICE D'INSTALLATION

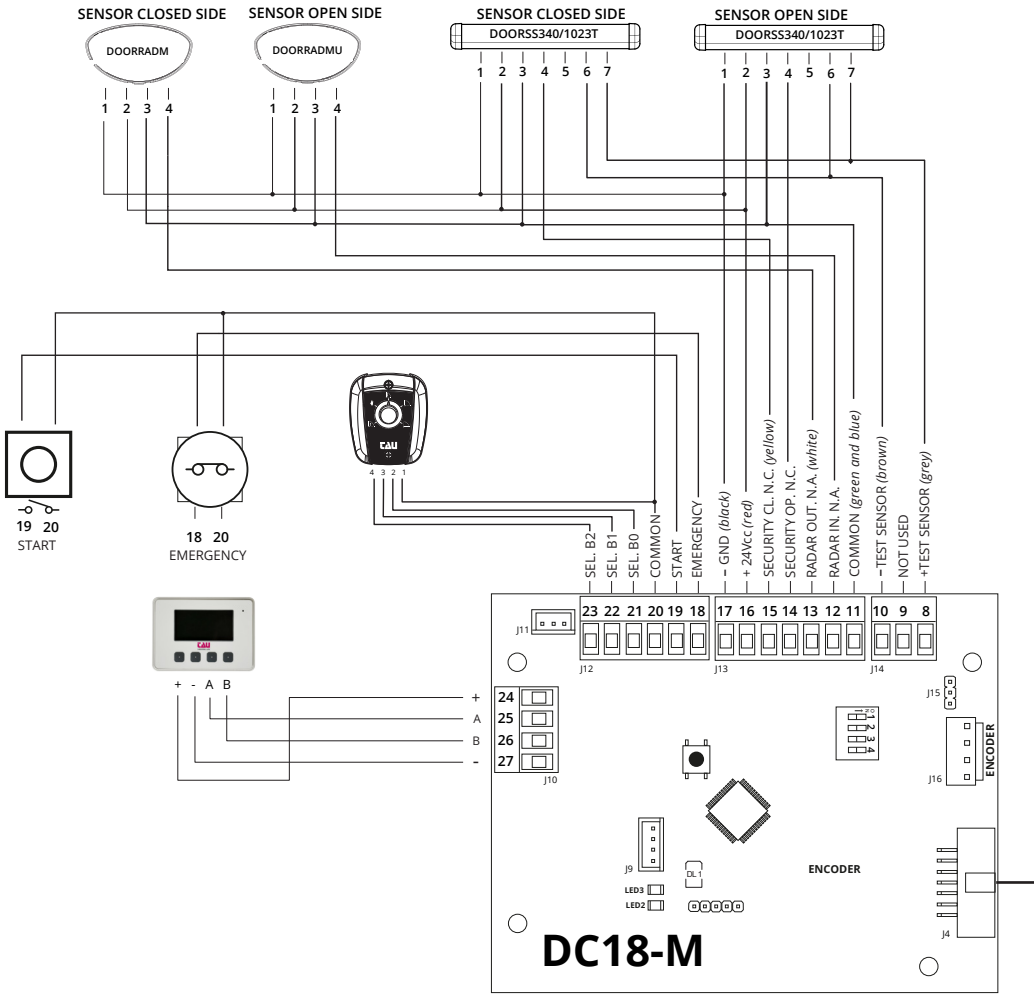
DC18

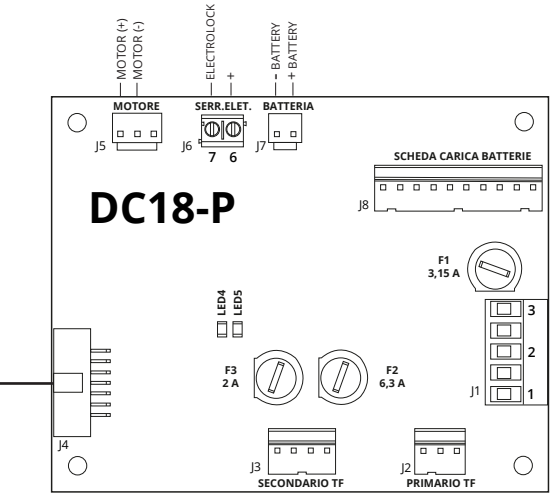


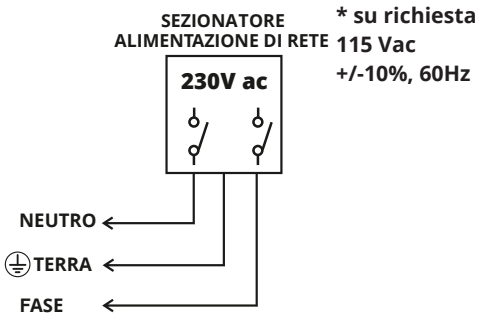
IT - Istruzioni originali

D-MNL0DC18 03-11-2023 - Rev.09

DC18 WIRING DIAGRAM WITH ACTIVATION AND SAFETY SENSORS

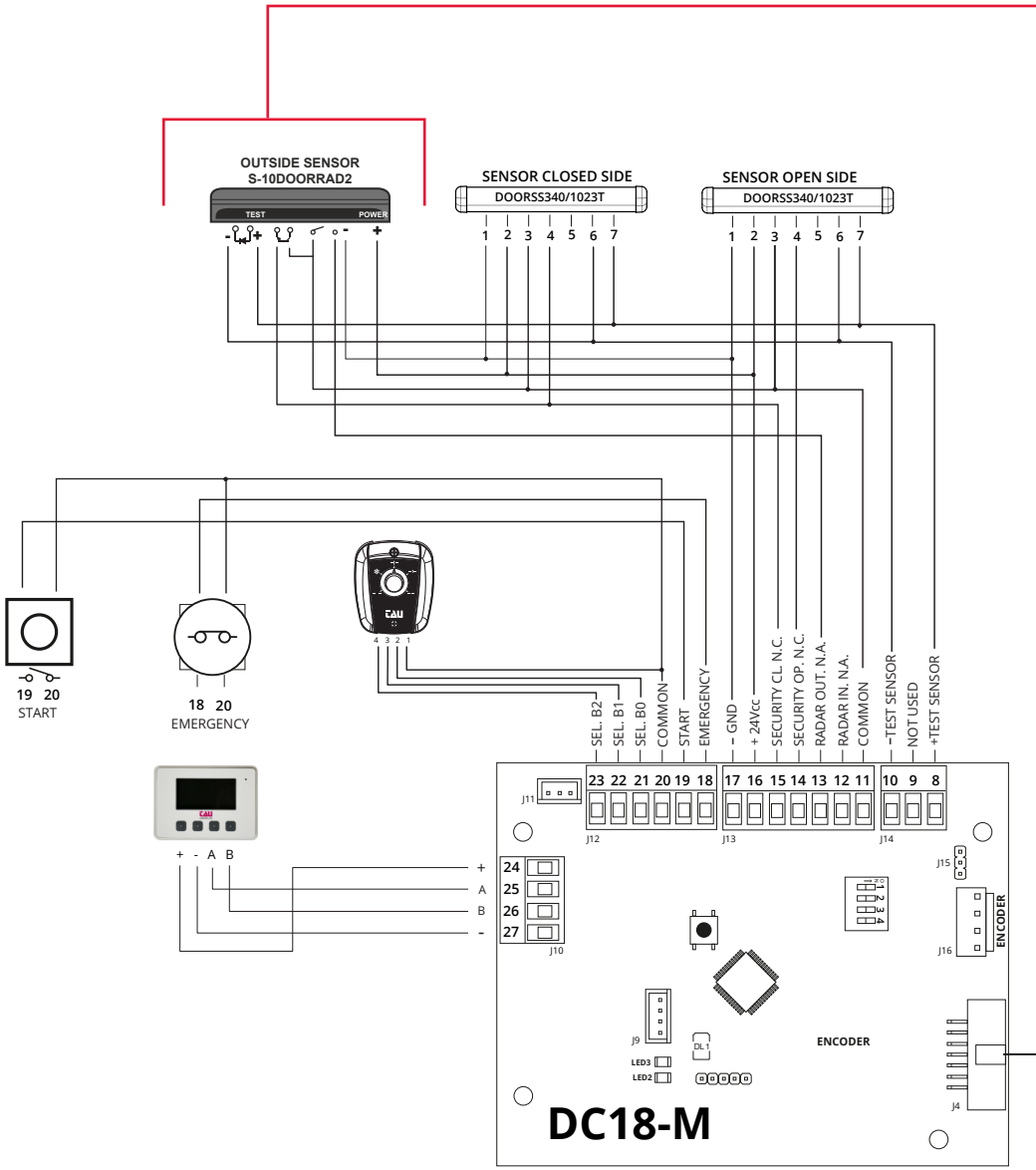


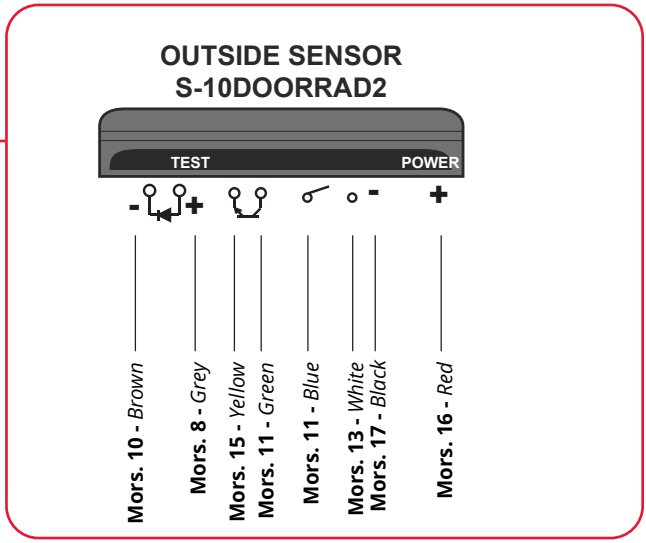


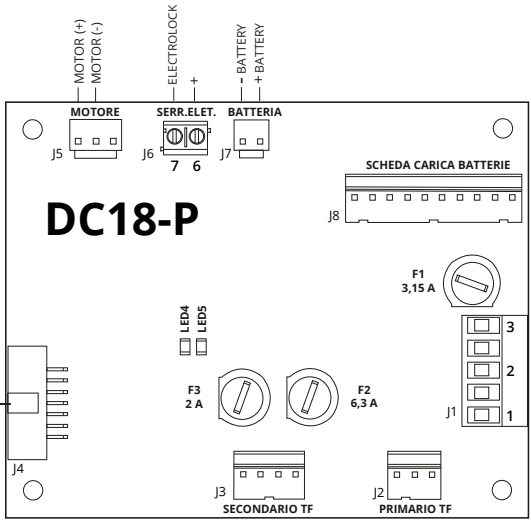


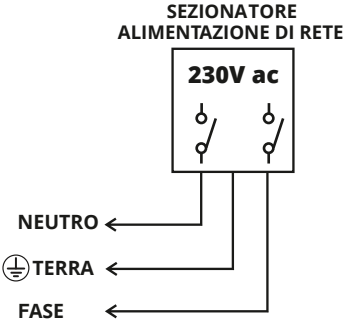
*** su richiesta**
115 Vac
+/-10%, 60Hz

DC18 WIRING DIAGRAM WITH ACTIVATION AND SAFETY SENSORS DOORRAD2 AND DOORSS340/1023T









*** su richiesta**
115 Vac
+/-10%, 60Hz

WARNINGS

This manual has been especially written for use by qualified installers. No information given in this manual can be considered as being of interest to end users. This manual is enclosed with control unit DC18 and may therefore not be used for different products!

Important information:

Disconnect the panel from the power supply before opening it.
The DC18 control unit has been designed to control an electromechanical gear motor for automating gates and doors of all kinds.
Any other use is considered improper and is consequently forbidden by current laws.
Please note that the automation system you are going to install is classified as "machine construction" and therefore is included in the application of European directive 2006/42/EC (Machinery Directive). This directive includes the following prescriptions:
- Only trained and qualified personnel should install the equipment;
- the installer must first make a "risk analysis" of the machine;
- the equipment must be installed in a correct and workmanlike manner in compliance with all the standards concerned;
- after installation, the machine owner must be given the "declaration of conformity".

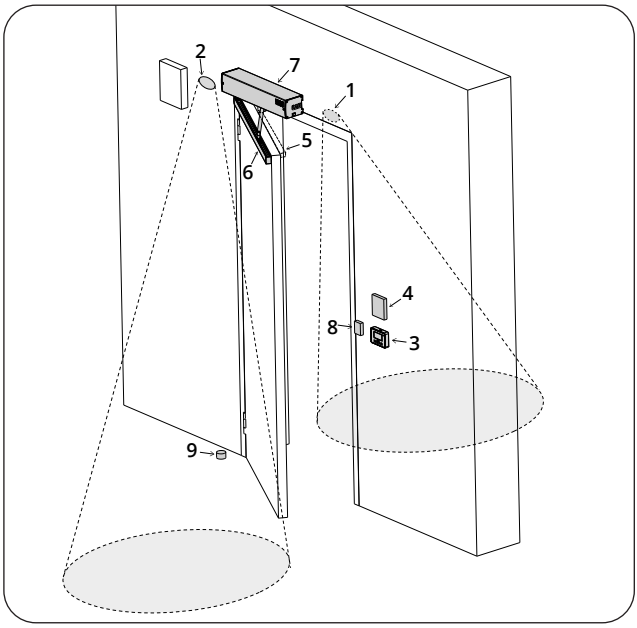
This product may only be installed and serviced by qualified personnel in compliance with current, laws, regulations and directives.
When designing its products, TAU observes all applicable standards (please see the attached decla- ration of conformity) but it is of paramount importance that installers strictly observe the same stand- ards when installing the system.
Unqualified personnel or those who are unaware of the standards applicable to the "automatic gates and doors" category may not install systems under any circumstances.
Whoever ignores such standards shall be held responsible for any damage caused by the system!
Do not install the unit before you have read all the instructions.

INSTALLATION

Before proceeding, make sure the mechanical components work correctly. Also check that the gear motor assembly has been installed according to the instructions. Then make sure that the power consumption of the gear motor is not greater than 3A (otherwise the control panel may not work properly).
THE EQUIPMENT MUST BE INSTALLED "EXPERTLY" BY QUALIFIED PERSONNEL AS REQUIRED BY LAW.
Note: it is compulsory to earth the system and to observe the safety regulations that are in force in each country.
IF THESE ABOVE INSTRUCTIONS ARE NOT FOLLOWED IT COULD PREJUDICE THE PROPER WORKING ORDER OF THE EQUIPMENT AND CREATE HAZARDOUS SITUATIONS FOR PEOPLE. FOR THIS REASON THE "MANUFACTURER" DECLINES ALL RESPONSIBILITY FOR ANY MALFUNCTIONING AND DAMAGES THUS RESULTING.

1. ELECTRIC ARRANGEMENTS

NOTE:
The grey part indicates the survey zone of radar and sensors.
The number of cables and the relevant section in mm is indicated for every device.



1) **EXTERNAL RADAR (4x0,5mm)**
2) **INTERNAL RADAR (4x0,5mm)**
3) **OPENING CONTROL (2x0,5mm)**
4) **PROGRAM SELECTOR (4x0,5mm)**
5) **SAFETY SENSOR FOR CLOSING (6x0,5mm)**
6) **SAFETY SENSOR FOR OPENING(6x0,5mm)**
7) **BRINK OPERATOR (mains power supply 3x1,5mm)**
8) **ELECTRIC LOCK (2x1mm)**
9) **FLOOR STOP**

- The power supply line must be protected against short circuit and dispersion to ground.
- On the power supply mains, provide for an omni-polar switch/selector with contact opening distance of at least of 3 mm.
- Use self-extinguishing cables for electric connections.

- Separate the mains power supply line from the very-low voltage line relative to control and safety accessories.
- On the plastic side panels of the Brink operator there are the holes that must be broken open, through which the electric cables must be inserted. The installer must made the power supply cable stable inside the operator and, particularly, limit the peeling of cable primary sheath so that the air and surface distances are not reduced if a connector detaches from the terminal.
- If operator is installed on a door leaf, perform electric connection by a branching box with suitable flexible unions and pipes, available on the market.

CONTROL PANEL FOR AUTOMATIC SWING DOOR

- MICROPROCESSOR-BASED CONTROLLER
- ENCODER SENSOR FOR SELF-LEARNING OF TRAVEL
- CONNECTOR FOR BATTERY
- DIAGNOSTICS LEDS

ATTENTION:

- **do not use single cables (with one single wire), ex. telephone cables, in order to avoid breakdowns of the line and false contacts;**
- **do not re-use old pre-existing cables;**

TESTING

Once the connection is completed:

TECHNICAL CHARACTERISTICS

Board power supply	230 V AC - 50 Hz*
Fast acting fuse entrance 230V AC (F5 - 5x20)	3.15A
Fast acting fuse for protection of auxiliary circuits 24 V CC (F1 - 5x20)	2 A
Fast acting fuse for motor protection 40Vcc (F2 - 5x20)	6,3 A
Motor power supply circuits voltage	40 V DC
Auxiliary device circuits supply voltage	24 V DC
Logic circuits supply voltages	5 V DC
Operating temperature	-20 °C ÷ +55 °C

*** On request 115 Vac +/- 10%, 60Hz**

WORKING PROGRAMS

Six different working programs can be selected (can be set by mechanical selector or by T-SIDETD programmer):

- "ENTRAMBI I SENSI" (AUTO)
- "SOLO USCITA" (EXIT ONLY)
- "SEMPRE CHIUSA" (HOLD CLOSE)
- "MANUALE" (
- "SEMPRE APERTA" (HOLD OPEN)
- "SOLO ENTRATA" (ENTRY ONLY)

Program	Description	Active inputs	Remarks
	"ENTRAMBI I SENSI" (AUTO)	*Two-Way Traffic*	*Outside Radar* *Inside Radar* *Start / PP* *Emergency*

	"SOLO USCITA" (EXIT ONLY)	*Exiting Traffic*	*Inside Radar* *Start / PP* *Emergency*
	"SEMPRE CHIUSA" (HOLD CLOSE)	*Door always closed (time to exit 10 sec.)*	*Emergency*
	"MANUAL"	*To move the door manually without controlling the motor*	
	"SEMPRE APERTA" (HOLD OPEN)	*Door remains always open*	
	"SOLO ENTRATA" (ENTRY ONLY)	*Entering Traffic*	*Outside Radar* *Start / PP* *Emergency*

CONNECTIONS TO TERMINAL BOARD

CONNETTORE J1 - power input connection 230V 50hz:

Terminals	Input/Output	Description
1	PHASE	230V AC
2	GROUND	
3	NEUTRAL	230V AC

*** On request 115 Vac +/- 10%, 60Hz**

CONNETTORE J2 - transformer primary connector.
CONNETTORE J3 - transformer secondary connector.
CONNETTORE J4 - connector to link the two electronic boards
CONNETTORE J5 - motor connection.

CONNETTORE J6 - terminal used to command an electric lock; to be combined with a relay in order to activate the lock.

Terminals	Function	Description
6 - 7	*ELECTRIC LOCK*	6= + 24V DC 7 = - GND

CONNETTORE J14 - connection for safety sensors test:

Terminals	Function	Description
8-10	*TEST SENSOR*	8 = + 24V DC 10 = - GND
9	*NOT USED*	

CONNETTORE J13 - sensor connection:

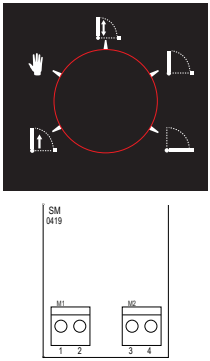
Terminals	Function	Description
11 - 12	*INTERNAL SENSOR (N.O. contact)*	Opens in “EXIT ONLY” and “AUTO”. Door won’t close until sensor is released.
11 - 13	*EXTERNAL SENSOR (N.O. contact)*	Opens in “ENTANCE ONLY” and “AUTO”. Door won’t close until sensor is released.
11 - 14	*OPENING SAFETY SENSOR (N.C. contact)*	Stops the door if it detects an obstacle/person during the opening phase, and it resumes opening when the obstacle/person is removed.
11 - 15	*CLOSING SAFETY SENSOR (N.C. contact)*	*Stops the door if it detects an obstacle/person during the closing phase and it reopens.*
16 - 17	*SENSORS POWER SUPPLY*	16= + 24V DC 17 = - GND

CONNETTORE J7 - battery connector.
CONNETTORE J8 - battery charger board connector.
CONNETTORE J9 - connector for T-WIFI.
CONNETTORE J11 - connector for lid button.

CONNETTORE J12 - connection for T-LINESELF and EMERGENCY button:

18 - 20	*EMERGENCY (N.C.)* (20= commun)	*Closed*	Opens in any program, except in “LOCKED”. When dip # 1 on SW1 is set on ON opens also in “LOCKED”.
		Opening	None.
		Closing	Reverts motion and opens.
		Open	Door won’t close until input is released.
		In pause	None.
19 - 20	***OPEN**/START (N.O.)* (20= commun)	*Closed*	Open.
		Opening	None.
		Closing	Reverts motion and opens.
		Open	None.
		In pause	None.
20 - 21 **22 - 23**	*MECHANICAL SWITCH*	20= Commun 21= Switch B0 22= Switch B1 23= Switch B2	**Connections:** **Selector** / **Control Panel** 1 / 20 2 / 21 3 / 22 4 / 23

WARNING: In case neither the mechanical selector it is necessary to jumper wire terminals 20 - 22.



	SHOLD OPEN =	Keeps door fully open.
	AUTO =	All Opening Inputs enabled
	EXIT ONLY =	Disables Outside Radar.
	MANUAL =	To move the door manually without controlling the motor.
	LOCK =	Keeps door closed, allowing opening only with EMERGENCY Input (with Dip #1 on SW1 on ON).

CONNETTORE J10 - connection to T-SIDETD *(see its manual).*

Terminals	Function	Description
24	POSITIVE T-SIDETD POWER	+ 5 V DC
25	A T-SIDETD SIGNAL	signals the communication between T-SIDETD and DC20
26	B T-SIDETD SIGNAL	signals the communication between T-SIDETD and DC20
27	NEGATIVE T-SIDETD POWER	- 5 V DC

CONNETTORE J16 - encoder connection.

STROKE SETUP

To carry out the STROKE SETUP it is necessary to use the T-SIDETD digital keyboard
Before proceeding with the SETUP of the stroke, use the dipswitch to select the type of automatic swing door and its characteristics:

1	*AUTOMATION TYPE*	**ON**	T-SIDE-S gearmotor with **closing spring**
		OFF	T-SIDE gearmotor **without** closing spring
2	*WEIGHT OF THE DOOR*	**ON**	Heavy door max 110 Kg
		OFF	Light door up to 80 Kg
3	*MASTER/SLAVE*	**ON**	To activate the MASTER/SLAVE mode for double swing leaf automations
		OFF	For automations with single swing leaf
4	*MASTER/SLAVE*	**ON**	To define the SLAVE status
		OFF	To define the MASTER status

IMPORTANT: during the initialization procedure no obstacles must be placed in the doorway and in the radar detection field, otherwise the procedure fails and must be repeated. Furthermore, the door must not be manually assisted and other parameters must not be changed with the digital keyboard.

At the first installation, power up the control unit and once the digital keyboard is connected,

it will propose the SETUP procedure automatically. To start the procedure, press the P1 key.

To start the SETUP of the stroke, press the P1 key, the DL1 LED will start to flash yellow and, subsequently, the door will start a slow opening and closing maneuver to find the opening and closing limit switches. At the end, the door will perform a complete opening and closing maneuver at standard speed. Once the setup is done, the door must be closed and the DL1 LED must flash green.
The automation will therefore work with the standard factory settings. In case an intervention is required to change the operating parameters, the digital keyboard must be used by accessing the various menus

SENSOR TEST SETTING

- Use only sensors which feature testing wires, connecting these to the wire terminals 8 and 10 of the controller DC18;
- Set DIP #15 and #16 on to ON in order to enable the test;
- Test will be performed at the beginning of each cycle (except when reversing motion).

BATTERY CHARGER KEY

Key: ● LED steady on; ◉ LED flashing;

GREEN LED – battery charger status	
off	**battery charger off;**
◉ flashing every 2 seconds	**initial slow charge;**
◉ continuous flashing	**under fast charge;**
◉ flashing every 4 seconds	**in backup;**
● steadily lit	**battery charged;**

RED LED – fault diagnostics	
off	**everything OK;**
● steadily lit	**FAULTY battery (cell voltage < than the minimum or .....)**
◉ continuous flashing	**short circuit**
◉ flashing every 2 seconds	**battery not connected**

AUTOMATIC OPERATION RESETTING - REALIGNMENT

When the board is powered or if the status of the inputs is unknown, the software must realign the automation to determine the initial position.
The direction of the realignment depends on the program selected and the command given.
ATTENTION: if there are any "motor" alarms, the automatic reset timer is inhibited.

DIAGNOSTICS LEDs AND BUZZER

DL1	DIAGNOSTIC
DL2	POWER SUPPLY 12 V
DL3	POWER SUPPLY 5 V
DL4	AUX POWER SUPPLY 24 V DC
DL5	Red LED for signaling MOTOR POWER SUPPLY 40V DC

DL1 LED ERRORS

Key: ● LED steady on; ◎ LED flashing;

Automation warnings:

◎ green - flashing every 4 seconds	**automation closed – everything OK;**
◎ green - continuous flashing	**automation moving (opening/closing);**
◎ green – quick flashing	**automation pausing;**
● green – steadily lit	**automation open;**
◎ /◎ alternating green/red - warning	**setup to be performed**
◎ yellow – QUICK flashing	**setup in progress**
◎ /◎ green/yellow – QUICK flashing	**Parameter recalculation in progress / program change**

Allarmi automazione:

◎ red - 1 error	**photocell test failed**
◎ red - 2 error	**obstacle present**
◎ red - 3 error	**no voltage**
◎ red - 4 error	**automation in unknown status**
◎ red - 5 error	**automation timeout**
◎ red - 6 error	**incorrect communication MASTER/SLAVE**
◎ red - 7 error	**wrong parameters (generic error)**
◎ red - 8 error	**incorrect winter stroke parameters**

Motor alarms:

◎ yellow - 1 error	**encoder faulty or disconnected motor 1**
◎ yellow - 2 error	**motor 1 faulty or disconnected**
◎ yellow - 3 error	**motor 1 absorption exceeding the limits**
◎ yellow - 4 error	**obstacle detected by encoder 1**
◎ yellow - 5 error	**encoder faulty or disconnected motor 2**
◎ yellow - 6 error	**motor 2 faulty or disconnected**
◎ yellow - 7 error	**motor 2 absorption exceeding the limits**
◎ yellow - 8 error	**obstacle detected by encoder 2**

TROUBLESHOOTING

MALFUNCTION	POSSIBLE CAUSE	ACTION
DL1 flashes green/ red alternately.	LEARNING Missing.	Perform LEARNING as described in LEARNING section.
During LEARNING motor won't move.	Safety or Command Inputs are not correctly connected.	Check connections on wire terminals.
	Safety or Command Inputs are in use.	Remove obstacle from Sensor or Photocells detection range.
With Mechanical Switch connected, door can't complete LEARNING process.	Mechanical Switch is set on "SOLO ENTRATA" (ENTRY ONLY).	Set Mechanical Switch either on "ENTRAMBI I SENSI" (AUTO) or "BLOCCATA CHIUSA" (LOCKED).
Door opens but not closes.	Sensor or Photocell detect an obstacle.	Remove obstacle from Sensor or Photocells detection range; check efficiency of detection devices.
	Dip # 3 on SW1 is set on OFF and battery is not connected, faulty or low.	Check connection and efficiency of the battery operated anti-panic device.
Doors stops and revert operation. The following cycle is performed at reduced speed.	The door found an obstacle.	Remove the obstacle.
	The following cycle is performed at reduced speed.	The door has excessive friction which is seen as an obstacle Check the door movement, if necessary adjust trimmers TR3 and TR4 (force).
Door opens a little bit, then closes at reduced speed.	Encoder is damaged or not properly connected.	Check the encoder 4-pole connector is inserted.
DL1 1 yellow flashes	Encoder not working	Check the encoder cable or replace the encoder as required.
Door won't open in "BLOCCATA CHIUSA" (LOCKED) program with EMERGENCY input.	Controller is set on "BLOCCATA CHIUSA" (LOCK) program and DIP # 1 on SW1 is set on OFF.	Select a different program, or set the DIP # 1 on SW1 to ON to enable EMERGENCY input.
Battery is connected, but door won't open in case of power failure.	DIP # 3 on SW1 is set on OFF.	Set DIP # 3 on SW1 on ON to enable automatic opening in case of power failure.

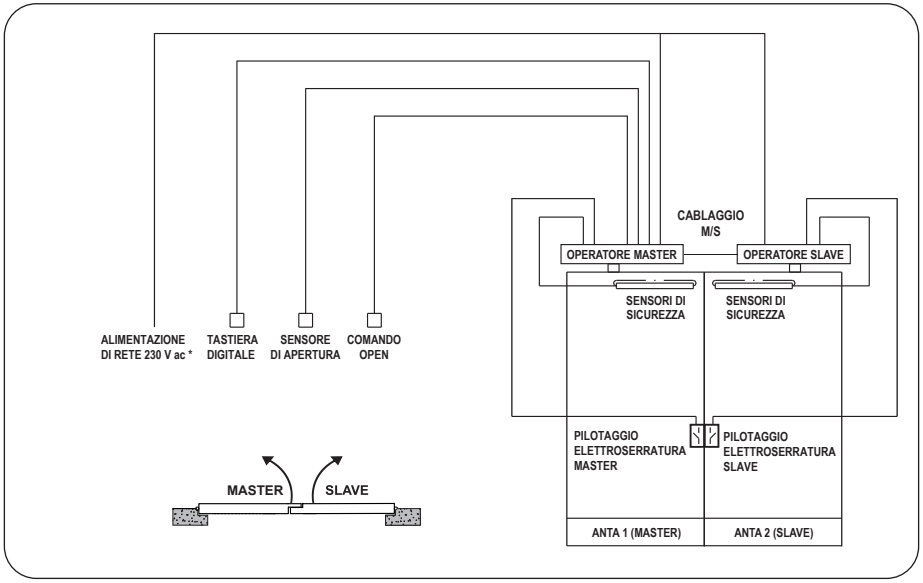
DOUBLE LEAF SWING DOOR

To manage the functioning of a double leaf swing door, two operators are needed: one configured as Master and the other one configured as Slave.
In the case of overlapping leaves, configure as Master the operator applied to the swing leaf (the one that opens first).

In the case of a swing door with two overlapping closing leaves and installed on emergency exits, the installer must measure the force required to open both leaves of the door by manually pushing the Slave leaf in the direction of escape (most unfavorable).
The force required to open the door manually must not exceed 150N and must be measured on the main edge, right angle to the leaf, at a height of 1000±10mm.
If the measured force should exceed the limit of 150N, apply the emergency breakout symbol only on the main leaf (Master) of the door.

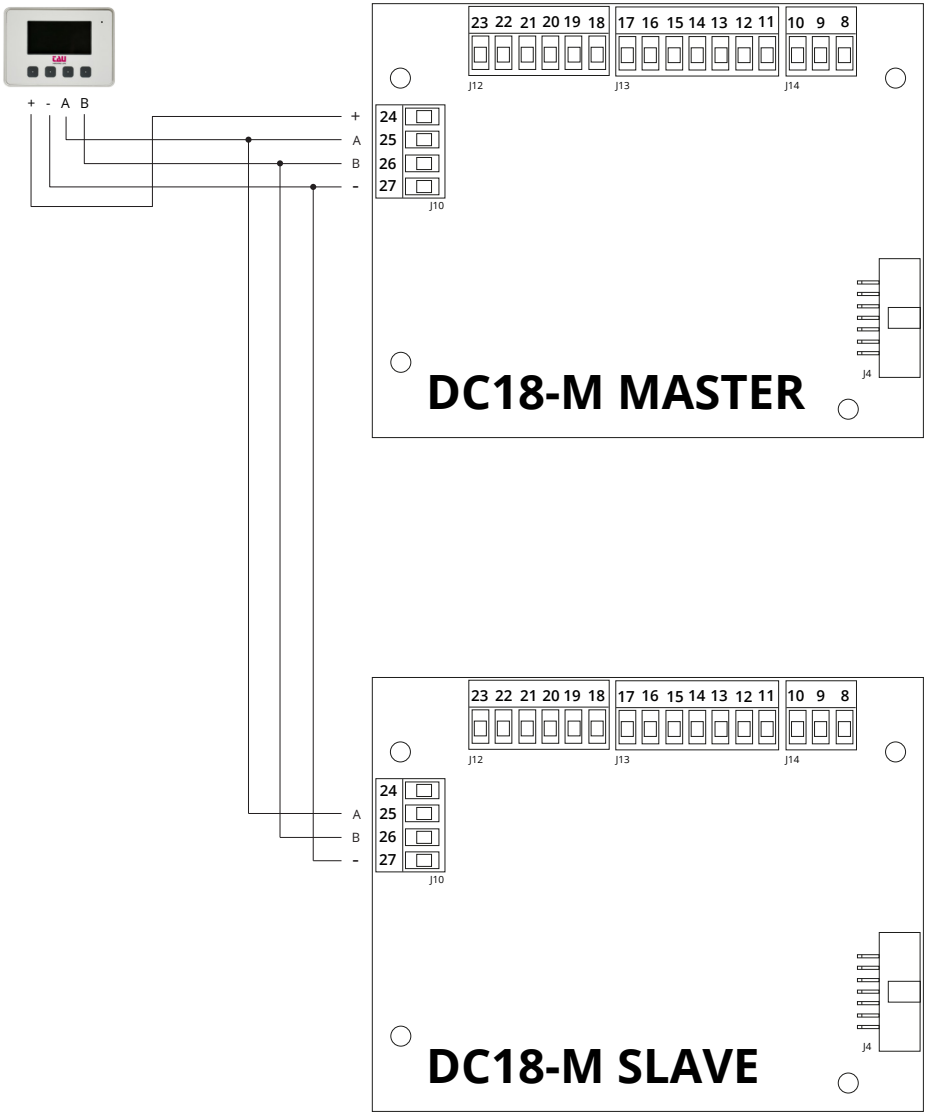
ELECTRICAL CONNECTIONS FOR DOUBLE LEAF DOOR

Make the electrical connections to the operators (see wiring diagram), considering that the command actuators for door opening, the program selector and the electric lock must be connected to the Master operator.
The safety sensors installed on the master leaf must be connected to the Master operator, the safety sensors installed on the slave leaf must be connected to the Slave operator.
If the door has a double electric lock to block each leaf individually, connect the electric lock that blocks the slave leaf to the Slave operator..



The Master and Slave operators must be connected to each other as shown in the figure. Connect to the Master operator with the T-SIDETD digital keyboard

Separate the mains power supply line from the low voltage line related to the connection of the two control units.



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Foglietto illustrativo
CARTA - Raccolta differenziata. Segui le indicazioni del tuo comune. (N.B.: togliere i punti metallici)

Instruction leaflet
PAPER - Waste separation. Follow the instructions of your city hall. (Note: remove the staples)