LABEL
Automatic Door Solutions

EN

NEPTIS PLUS

NB-SLT
NB-SLTB

NB-LET
NB-LETB

NB-SMT
NB-SMTB

INSTALLATION MANUAL

Automation for pedestrian automatic swing door

MADE IN ITALY

TÜV SÜD Italia
AZIENDA CERTIFICATA SISTEMA QUALITÀ UNI EN 9001:2008

CE

English
TRANSLATION OF THE ORIGINAL INSTRUCTIONS

NEPTIS PLUS - Installation Manual - ENG - Rel.1.0 - 04/2021 - CD0450EN

LABEL
Automatic Door Solutions

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MECHANICAL SECTION

ELECTRONICS

GENERAL SAFETY WARNINGS

Carefully read this instruction manual for the safe installation and operation of the automatic door.
Improper installation and incorrect use of the product could cause serious injury.
Keep the instruction manual for future reference.
The installer must provide all the information about operation and provide the system user with the user manual delivered with the product.

MEANING OF THE SYMBOLS USED IN THESE INSTRUCTIONS

DANGER:
Notification of dangerous situations that could cause material damage and personal injury.

WARNING:
Identifies the procedures that must be understood and followed mandatorily in order to avoid damage to the product or malfunctions.

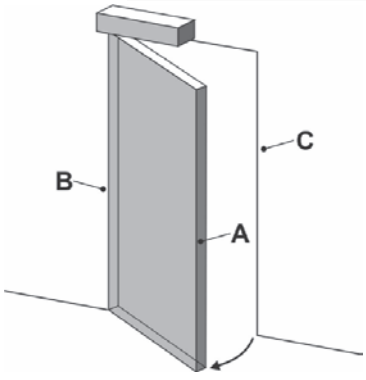
NOTE:
Highlights important information.

GENERAL SAFETY OBLIGATIONS

The mechanical and electric installation must be performed by specialised personnel in accordance with the applicable directives and regulations.
The installer must make sure that the structure to be automated is stable and sturdy and, if necessary, make structural modifications to make it so.
Keep product and packaging materials out of children's reach, as they might be a source of danger.
Do not let children stay or play within the operating range of the door.
This product is designed and built exclusively for the purpose described in this documentation. Any other use that is not specifically indicated could adversely impact the condition of the product and the safety of people.
Label accepts no responsibility for incorrect product installation and usage, as well as for any damage caused by changes made without its prior consent.
Label is not responsible for the construction of the frames to be motorised.
The IP32 protection class requires that the automation is installed only on the inner side of buildings.
This product cannot be installed in explosive environments or atmospheres, or in the presence of flammable gases or fumes.
Make sure that the characteristics of the electric distribution network are compatible with the technical data indicated in this manual and that upstream of the system there is an omnipolar switch with an opening distance of the contacts of at least 3mm and a residual current device.
The automatic door must be checked, started up, and tested by personnel skilled and trained about the product.
A technical dossier must be compiled for every automation, as established in the Machinery Directive.
Disconnect the power supply before working on the automation and before opening the cover.
Maintenance is of fundamental importance for the proper operation and safety of the automation. Check the efficiency of all parts every six months.
Use only original spare parts for maintenance and when replacing product components.
Cleaning operations must be performed with the power supply disconnected, using a damp cloth. Do not deposit or let water or other liquids penetrate into the automation or the accessories that are part of the system.

It is recommended to subscribe a maintenance contract.

The automatic swing doors must be designed and installed so as to protect users against the risk and danger of crushing, impact, and shearing between the leaf and adjacent parts near the door outline.
The person responsible for starting-up the automation must perform a risk assessment based on the place of installation and the type of users that could use the automatic door.
The automation Neptis Plus, as provided for by the standard EN16005, must be equipped with the safety devices (sensors) compliant with the standard EN12978.



A = Main closing edge

B = Secondary closing edge

C = Opposite closing edge

The crushing and shearing dangers on the secondary closing edge must be protected structurally or by means of additional safety provisions (e.g., rubber covers).
Any residual risks must be properly highlighted.

1) DESCRIPTION OF THE MODELS

The automation Neptis Plus consists of an electro-mechanical motor to open pedestrian swing doors.

According to the type of automation, the door may be re-closed by a spring or by a motor.

The electronic control equipment is located inside the automation.

A list of the automation models for Neptis Plus swinging doors produced by Label is provided below:

- **NB-SLT**
  with re-closure spring, for leaves weighing no more than 250Kg.
- **NB-SLTB**
  with built-in emergency battery, re-closure spring, for leaves weighing no more than 250Kg.
- **NB-LET**
  with re-closure spring, for leaves weighing no more than 120Kg.
- **NB-LETB**
  with built-in emergency battery, re-closure spring, for leaves weighing no more than 120Kg.
- **NB-SMT**
  motor-driven closing only, for leaves weighing no more than 250Kg.
- **NB-SMTB**
  with built-in emergency battery, motor-only closure, for leaves weighing no more than 250Kg.

All Neptis Plus automation models can be used with slide pull arm, or with articulated push arm.

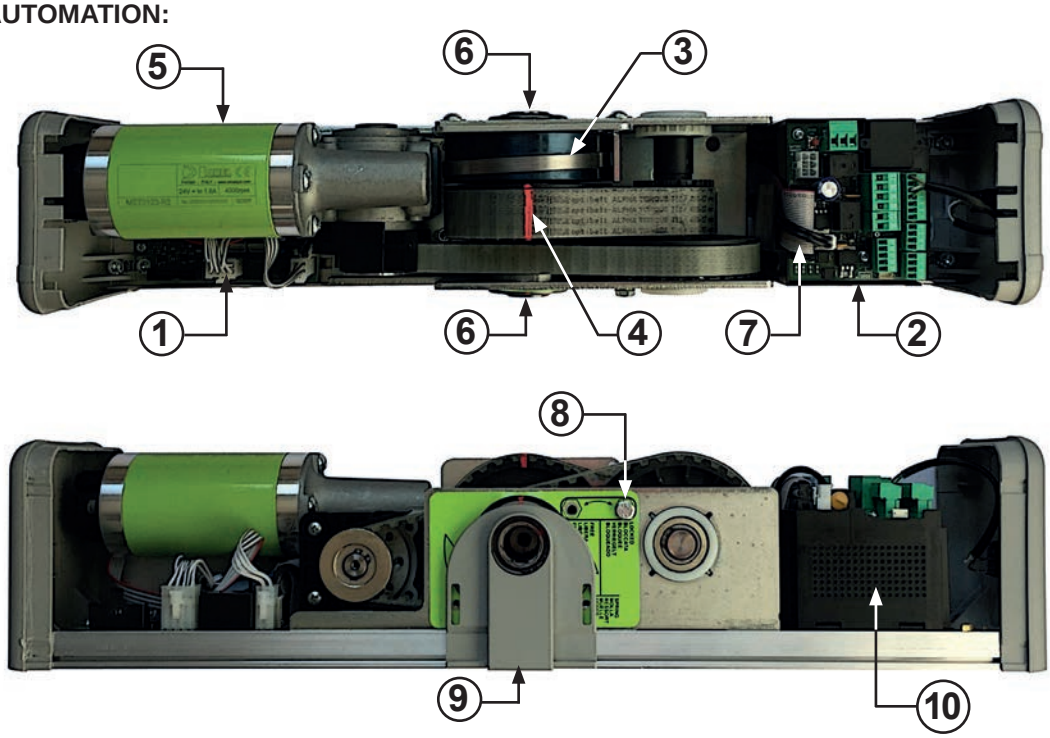
The choice of the model depends on the weight and length of the door leaf, on the desired re-closure type (spring-driven or motor-driven only) and on whether the emergency battery is required.
The automation must be installed in indoor environments.
All models are reversible, so in case of power failure it is possible to open the door manually.
Before starting installation, refer to the technical drawings in paragraph 5; for each type of arm they include the application design with installation dimensions and the chart that, depending on the automation model, provides the weight limits based on the length of the door leaf.
The technical data provided in the drawings refers to a typical installation, but may be influenced by variables inherent to each closing, such as friction, environmental conditions, alignment of the leaf hinges, etc....

2) TECHNICAL SPECIFICATIONS

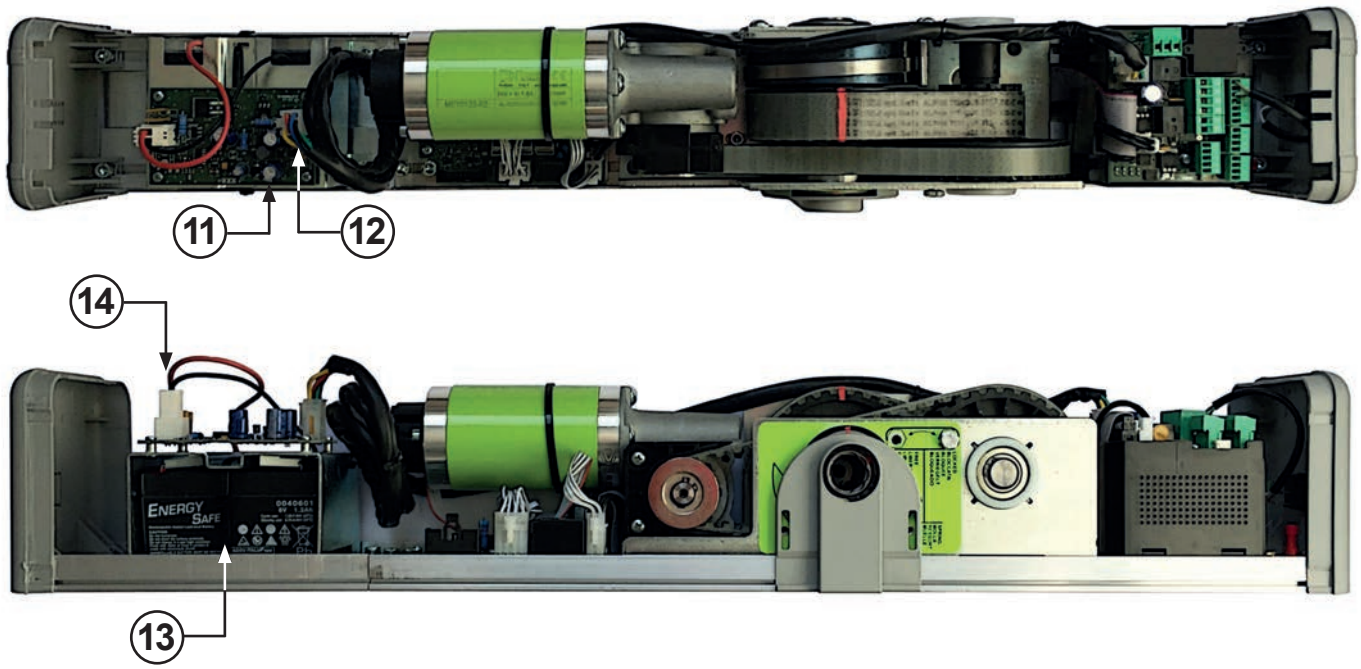
POWER SUPPLY	115/230V~, 50-60Hz
POWER	100W
POWER SUPPLY OF EXTERNAL ACCESSORIES	24Vdc, 1A
BRUSHLESS MOTOR	24Vdc
AUTOMATION SIZE (LxHxD)	550 x 110 x 120 mm
DIMENSIONS OF AUTOMATION with BATTERY (LxHxD)	730 x 110 x 120 mm
WEIGHT OF MOD. NB-SLT, NB-LET, NB-SMT	9.5 Kg
WEIGHT OF MOD. NB-SLTB, NB-LETB, NB-SMTB	11 Kg
PROTECTION CLASS	IP31
AMBIENT TEMPERATURE	-15°C +50°C
FREQUENCY OF USE	continuous
LIMIT SWITCH AND ANTICRUSH SAFETY	controlled by encoder
REACTION TO OBSTACLES	reversal of direction
OPENING TIME FOR 95°	3 - 12 seconds adjustable
CLOSING TIME FOR 95°	4 - 15 seconds adjustable
TORQUE	≤ 40 Nm
STAND-BY CONSUMPTION	6W
SOUND PRESSURE EMISSION	LpA ≤ 70dB (A)

3) NEPTIS PLUS AUTOMATION COMPONENTS

STANDARD AUTOMATION:



AUTOMATION WITH BATTERY:



LEGEND:

1	LOGIC CARD LCB
2	PWB ELECTRICAL WIRING AND POWER SUPPLY CARD
3	RE-CLOSURE SPRING (MODELS NB-SLT, NB-LET)
4	SPRING PRELOAD REFERENCE LINE
5	BRUSHLESS GEARMOTOR
6	MOTION TRANSMISSION SHAFT OUTLET
7	INTERNAL WIRING BETWEEN LCB AND PWB CARDS
8	SPRING PRELOAD LOCKING SCREW
9	PLASTIC PLATE
10	SWITCHING POWER SUPPLY
11	NB-BAT MODULE, BATTERY CHARGER CARD
12	WIRING BETWEEN NB-BAT MODULE AND PWB CARD
13	NB-BAT MODULE, BATTERIES
14	BATTERY CABLE CONNECTION

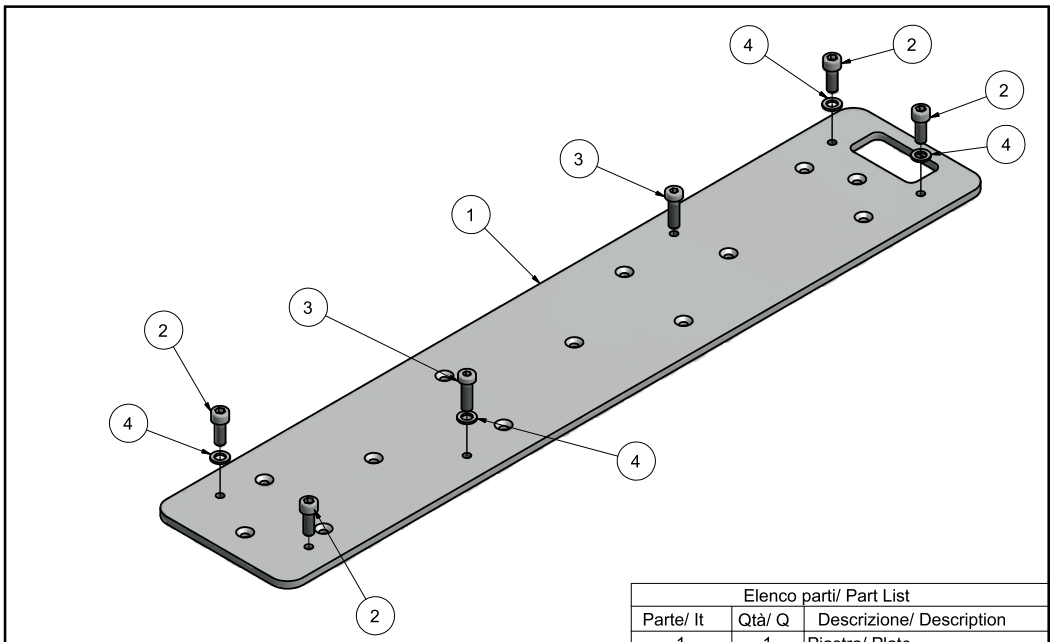
4) PRELIMINARY CHECKS

Before installing the automation, verify the following requirements:

- The support structure of the automation should be firm, with no significant deformation.
- The structure of the leaf must be rigid and strong.
- The leaf hinges must be adequate and in good condition.
- The length and weight of the leaf must be within the operating limits of the automation.
- The movement of the leaf must be smooth and free of friction throughout the run.
- The door requires mechanical stops, consisting of a mechanical stop in open position and a final stop in closed position.

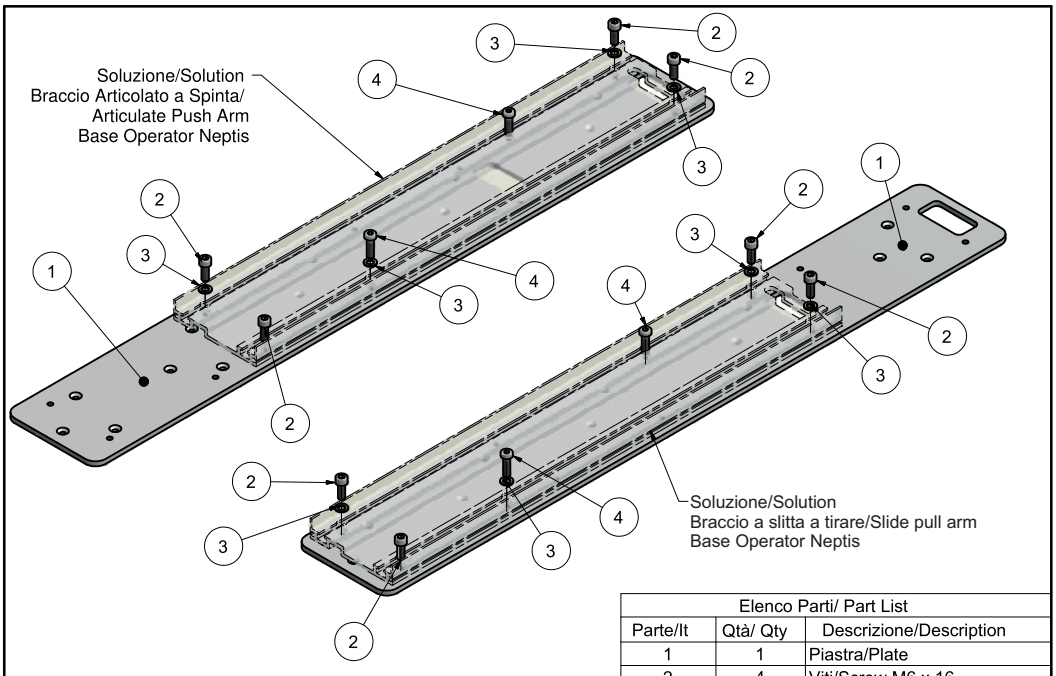
The mechanical opening stop is not supplied with the automation.

In case the wall on which the automation is to be installed were not strong and reliable enough, you can purchase a pre-drilled metal plate to which you can fasten the Neptis Plus automation.
There are two models of fixing plates, FIXPLATE for the Neptis Plus automation without battery and FIXPLATE-P for the Neptis Plus automation with built-in battery.



FIXPLATE

Elenco parti/ Part List		
Parte/ It	Qtà/ Q	Descrizione/ Description
1	1	Piastra/ Plate
2	4	Vite/ Screw M6 x 16
3	2	Vite/ Screw M6x20
4	4	Rondella/ Washer



FIXPLATE-P

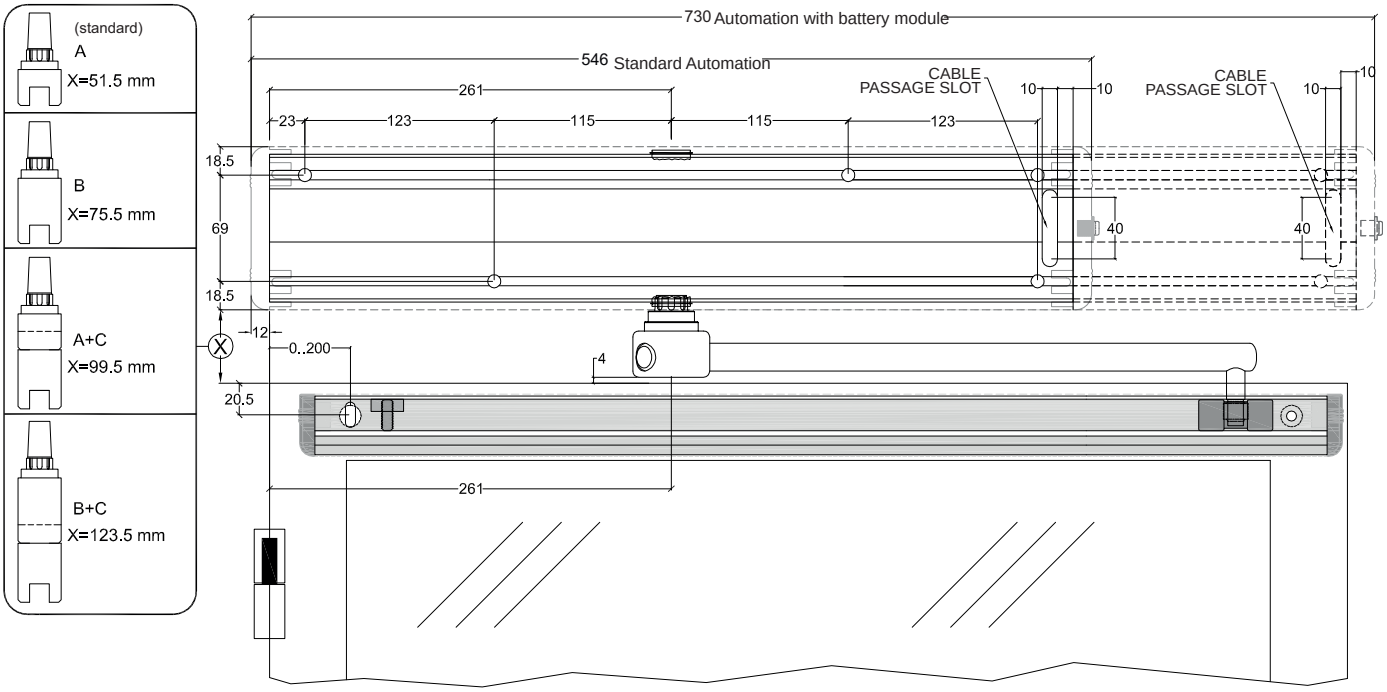
Elenco Parti/ Part List		
Parte/It	Qtà/ Qty	Descrizione/Description
1	1	Piastra/Plate
2	4	Viti/Screw M6 x 16
3	4	Rondella/Washer
4	2	Vite/ Screw M6x20

5) TECHNICAL DRAWINGS

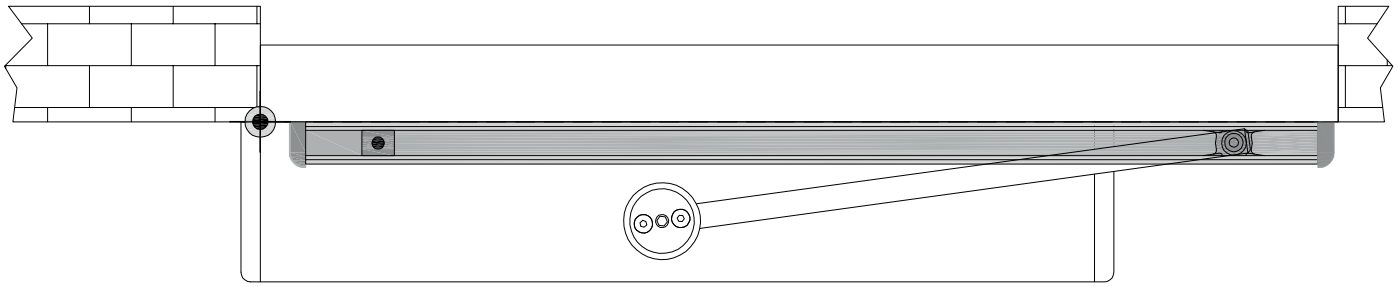
5.1) ASSEMBLY OF THE AUTOMATION ON THE TRANSOM FROM THE HINGE SIDE

SLIDE PULL ARM BDT2

For doors opening inward (as seen from the automation side)



A = STANDARD TAPERED PIN
Should it be necessary to increase the distance between the automation and the arm (dimension X), replace the standard tapered pin with the following optional extensions:
B = EXTB-Z TAPERED PIN (optional) for mm. 24 shaft extension
C = EXTC-Z EXTENSION (optional) for TAPERED PIN for mm. 48 shaft extension



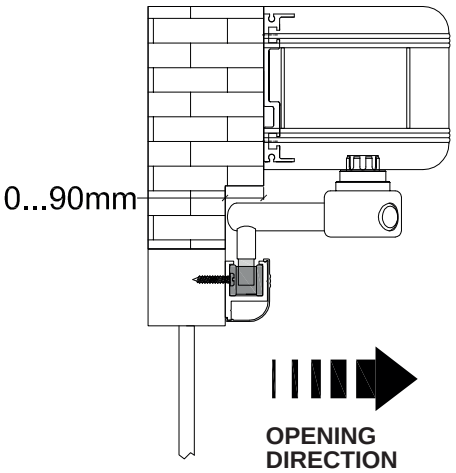
ONLY FOR SPRING MODELS NB-LET / LETB / SLT / SLTB

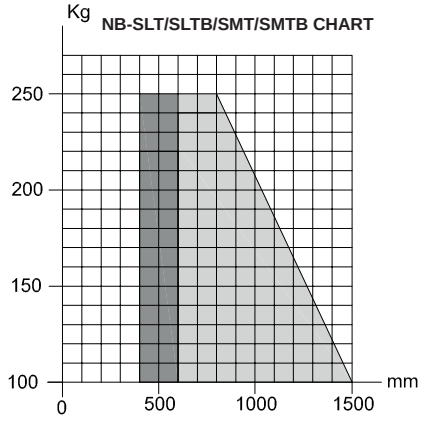
For this application, please consider that the gearmotor must be on the hinged side of the door for a correct opening movement direction.

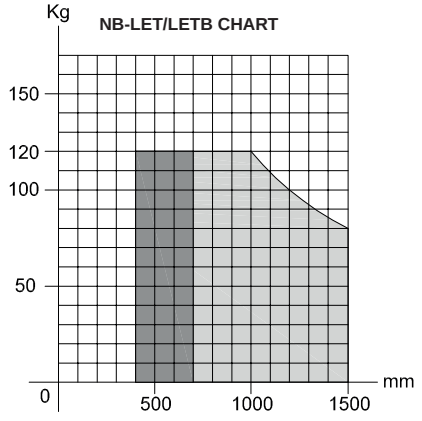
Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Installation drawings available upon request

Unusable leaf length and weight



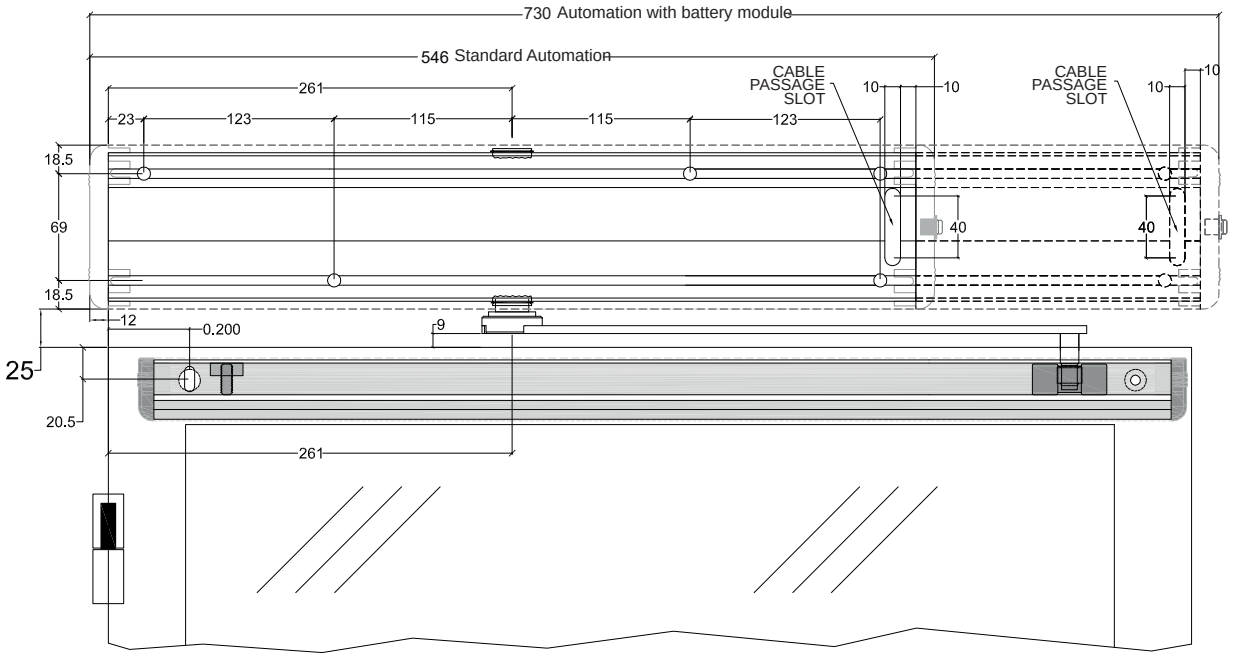


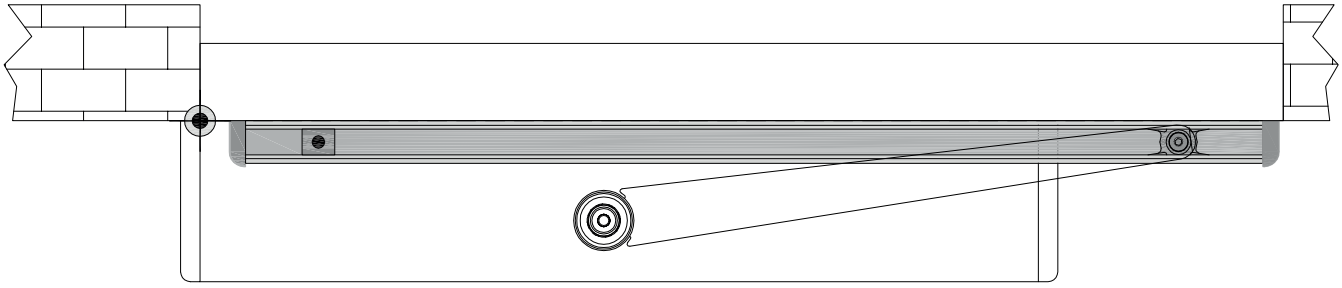


5.2) ASSEMBLY OF THE AUTOMATION ON THE TRANSOM FROM THE HINGE SIDE

SLIDE PULL ARM BDT2R55

For doors opening inward (as seen from the automation side)





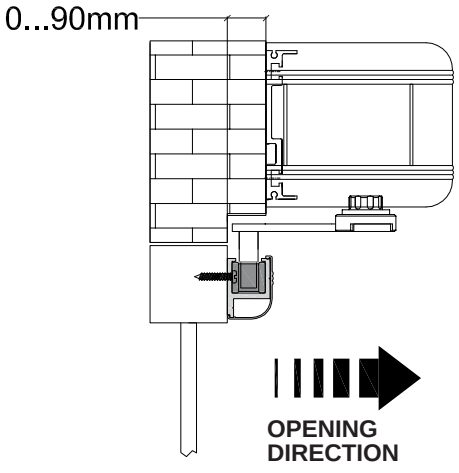
ONLY FOR SPRING MODELS NB-LET / LETB / SLT / SLTB

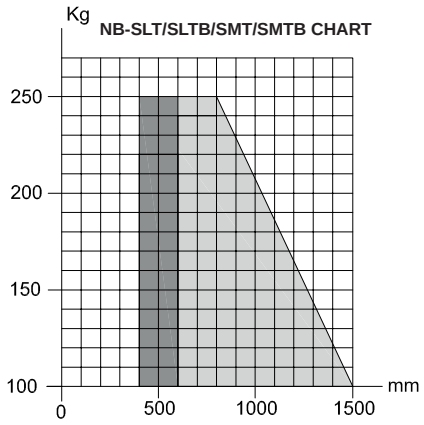
For this application, please consider that the gearmotor must be on the hinged side of the door for a correct opening movement direction.

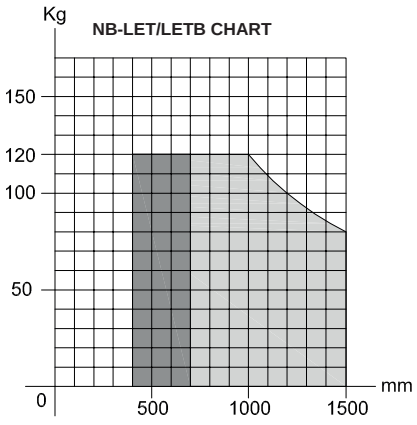
Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Installation drawings available upon request

Unusable leaf length and weight



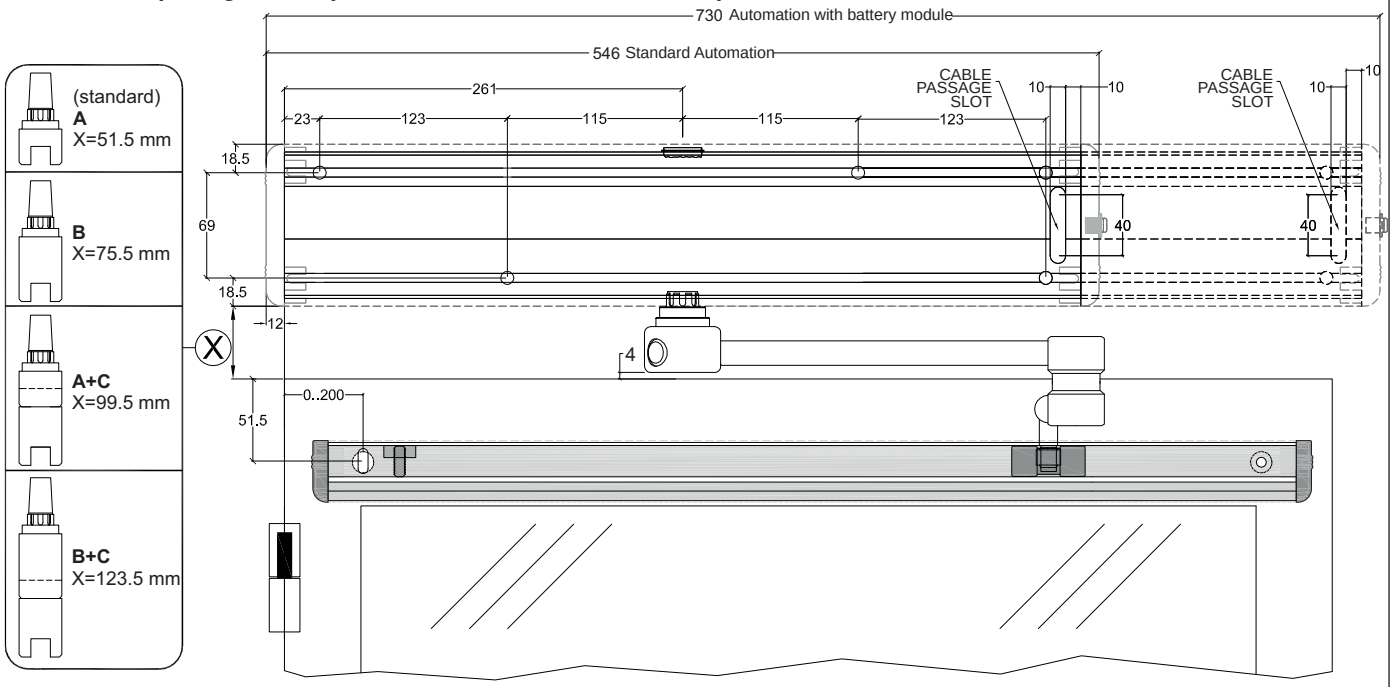




5.3) ASSEMBLY OF THE AUTOMATION ON THE TRANSOM FROM THE HINGE SIDE

ELBOW ARM BSG 150/250

For doors opening inward (as seen from the automation side)

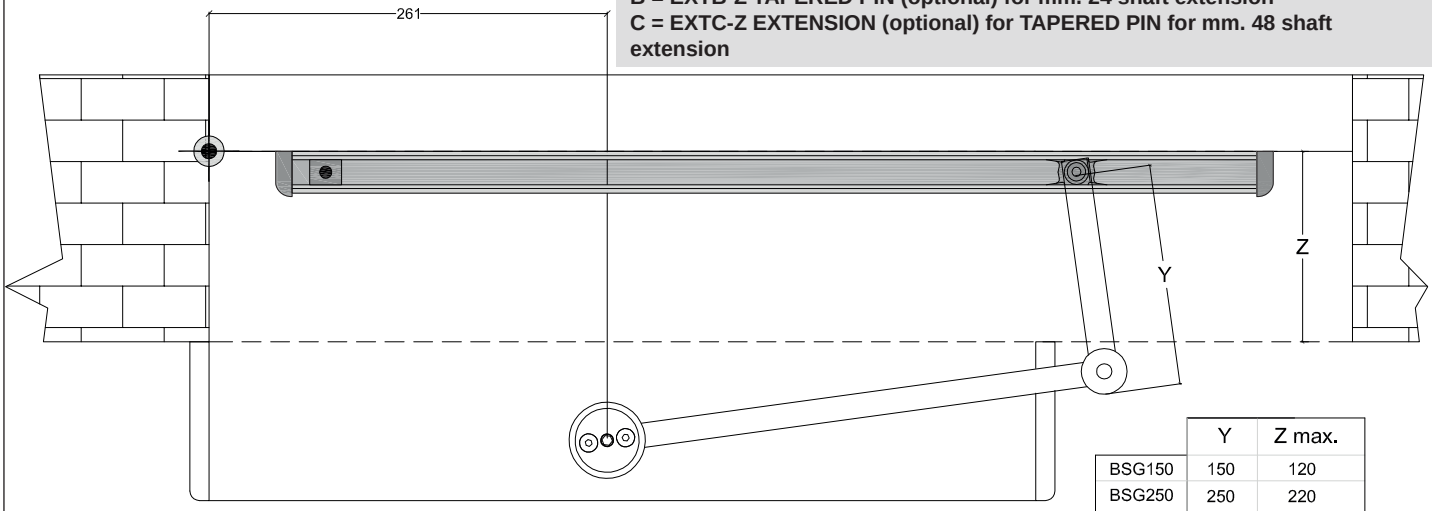


A = STANDARD TAPERED PIN

Should it be necessary to increase the distance between the automation and the arm (dimension X), replace the standard tapered pin with the following optional extensions:

B = EXTB-Z TAPERED PIN (optional) for mm. 24 shaft extension

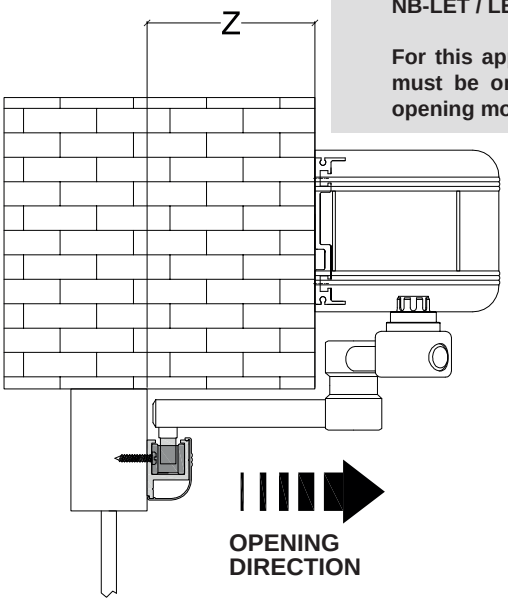
C = EXTC-Z EXTENSION (optional) for TAPERED PIN for mm. 48 shaft extension



	Y	Z max.
BSG150	150	120
BSG250	250	220

ONLY FOR SPRING MODELS
NB-LET / LETB / SLT / SLTB

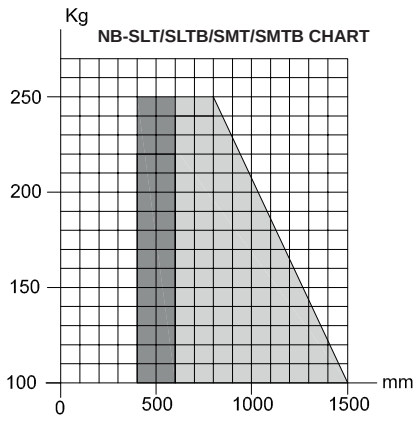
For this application, please consider that the gearmotor must be on the hinged side of the door for a correct opening movement direction.

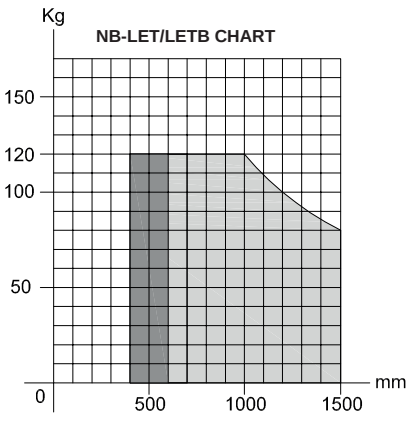


Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Installation drawings available upon request

Unusable leaf length and weight

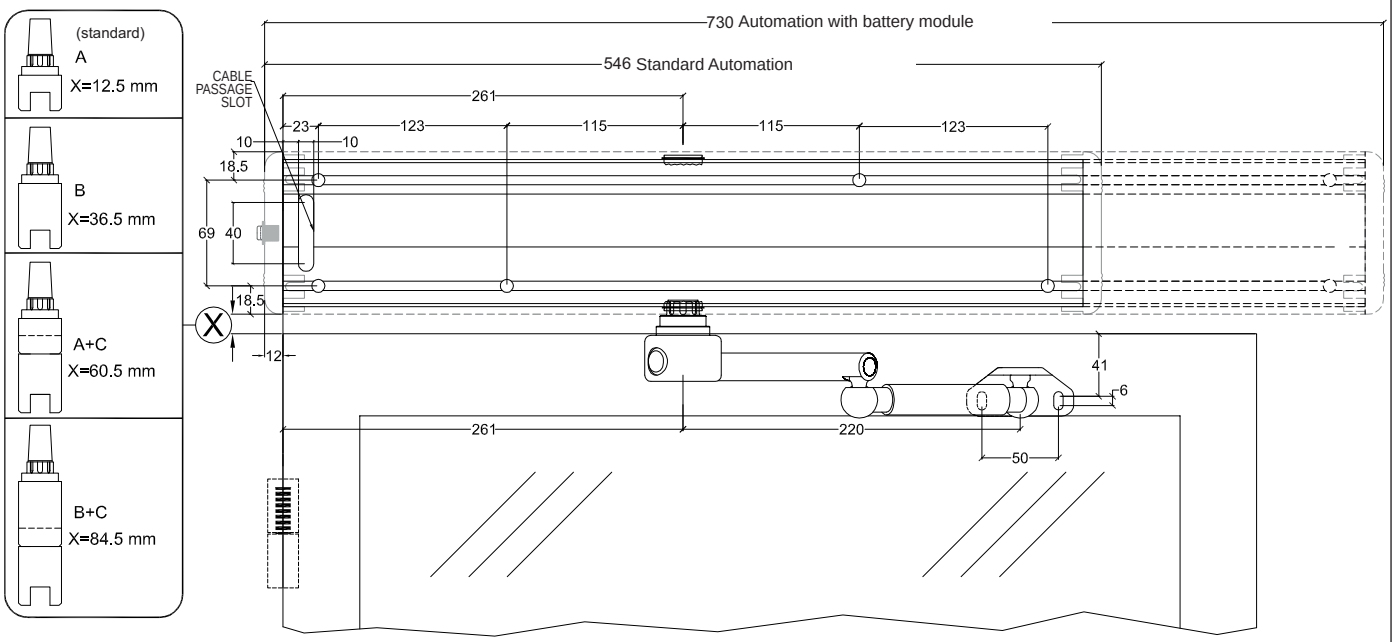


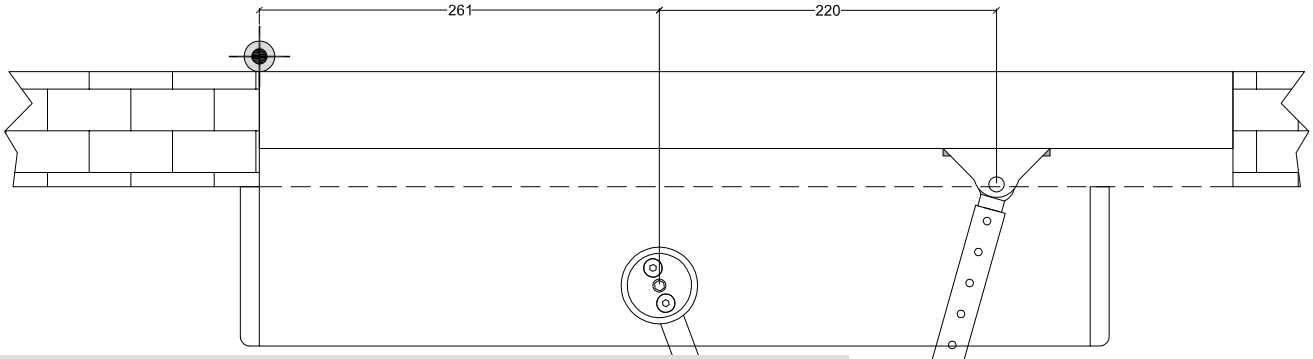


5.4) ASSEMBLY OF THE AUTOMATION ON THE TRANSOM FROM THE SIDE OPPOSITE TO THE HINGE

ARTICULATED PUSH ARM BSS2

For doors opening outward (as seen from the automation side)





A = STANDARD TAPERED PIN
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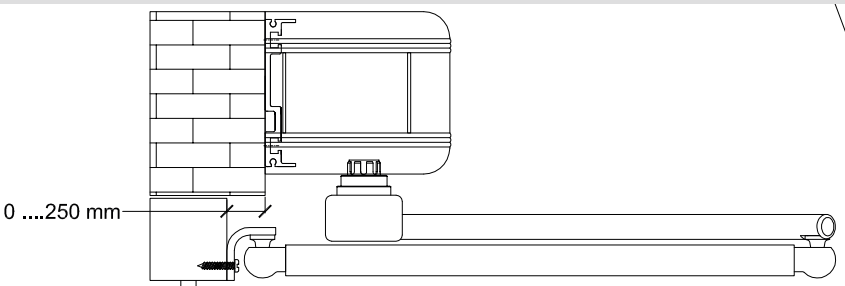


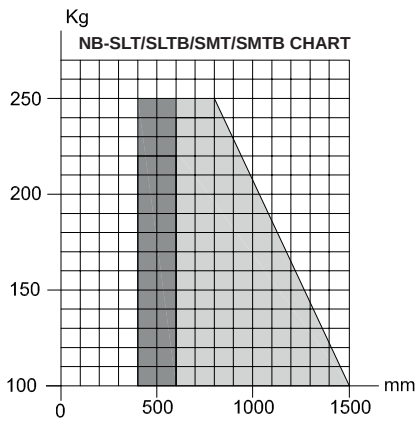
OPENING DIRECTION

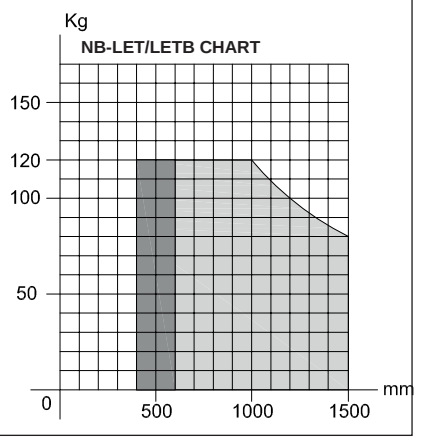
Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Installation drawings available upon request

Unusable leaf length and weight

ONLY FOR SPRING MODELS
NB-LET / LETB / SLT / SLTB
For this application, please consider that the PWB cabling board must be on the hinged side of the door for a correct movement direction when opening.
It is necessary to install a mechanical stop in open door position

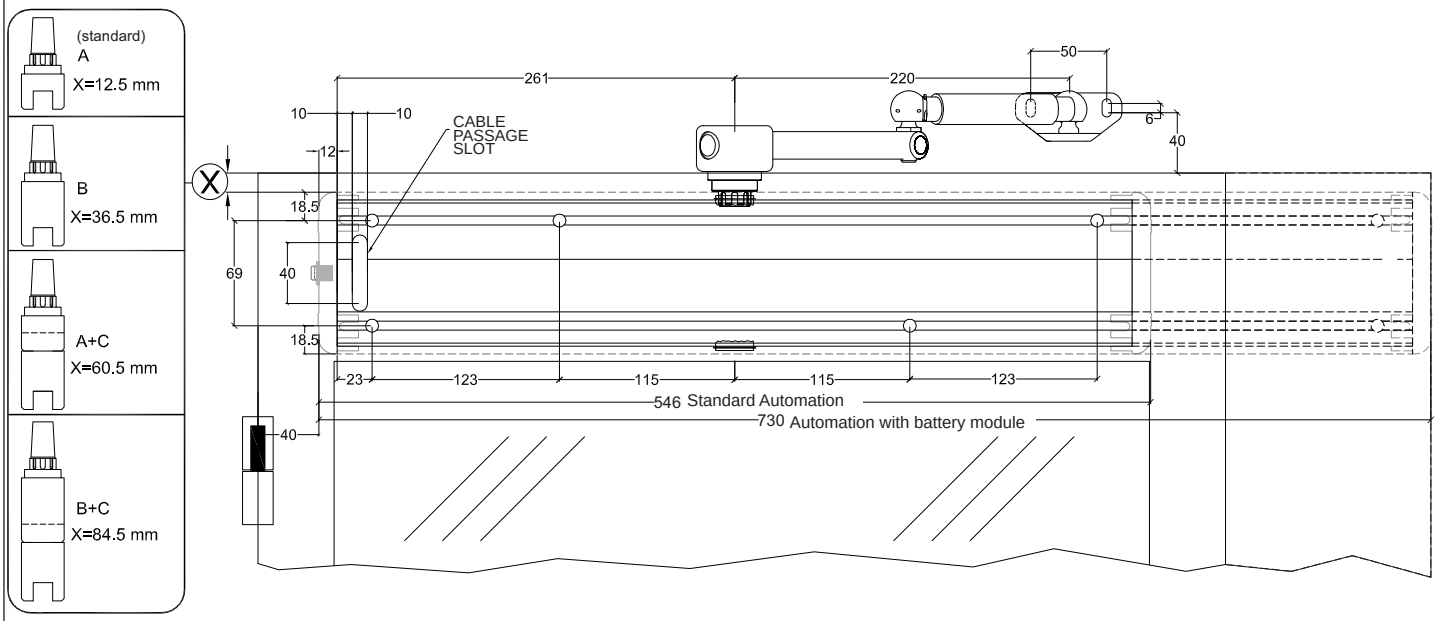




5.5) ASSEMBLY OF THE AUTOMATION ON THE LEAF FROM THE HINGE SIDE

BSS2 ARTICULATED PUSH ARM

For doors opening inward (as seen from the automation side)



A = STANDARD TAPERED PIN
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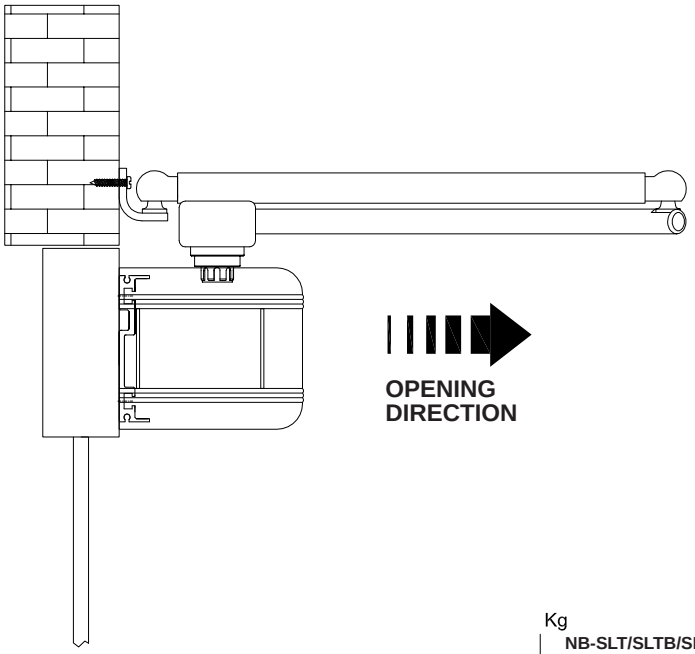
C = EXTC-Z EXTENSION (optional) for TAPERED PIN for mm. 48 shaft extension

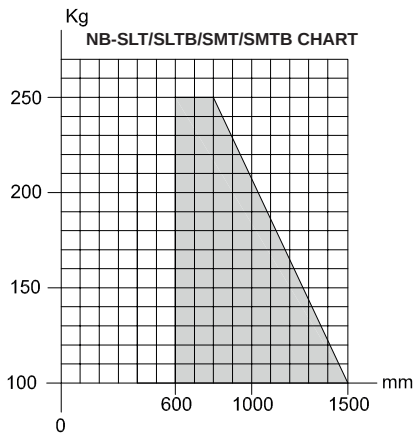


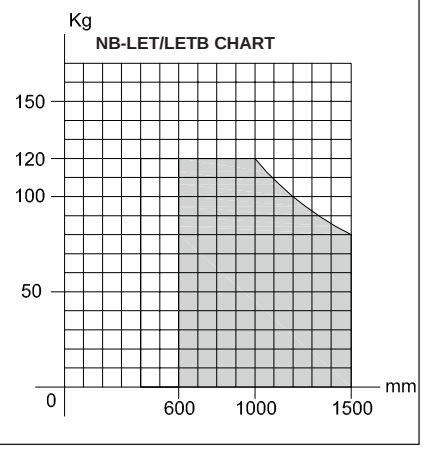
OPENING DIRECTION

Usable leaf length and weight

Unusable leaf length and weight

ONLY FOR SPRING MODELS
NB-LET / LETB / SLT / SLTB
For this application, please consider that the PWB cabling board must be on the hinged side of the door for a correct movement direction when opening.
It is necessary to install a mechanical stop in open door position

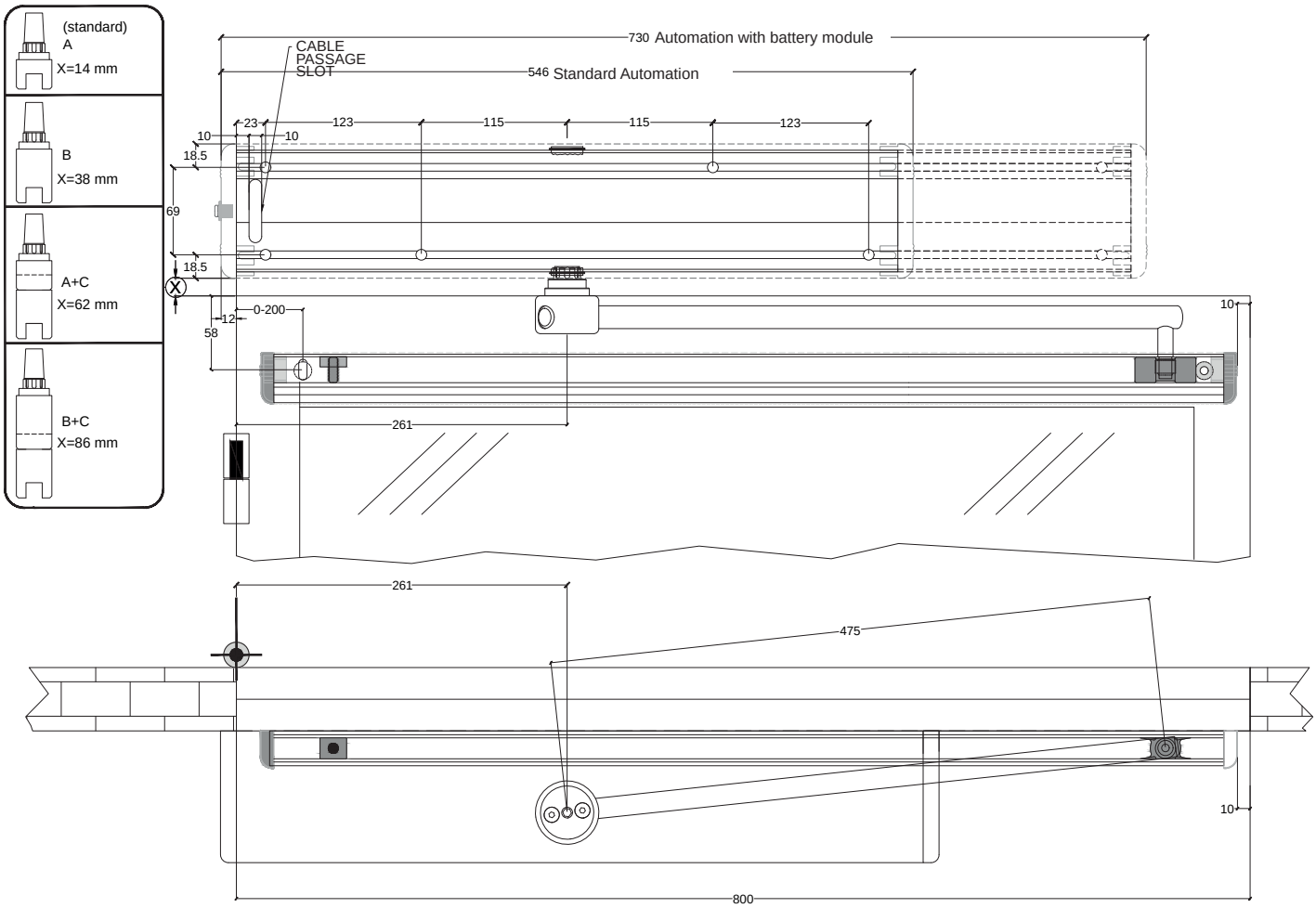


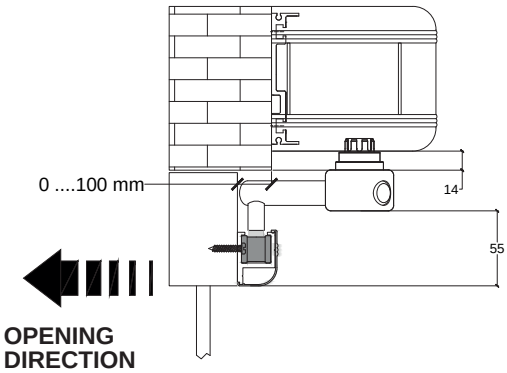


5.6) ASSEMBLY OF THE AUTOMATION ON THE TRANSOM FROM THE HINGE SIDE

ARTICULATED PUSH ARM BDS

For doors opening outward (as seen from the automation side)

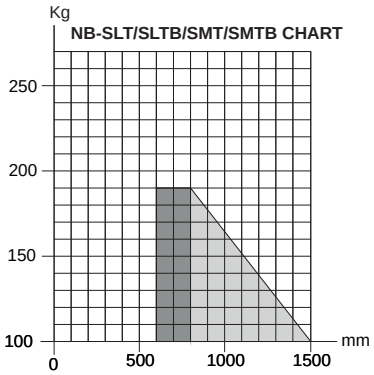


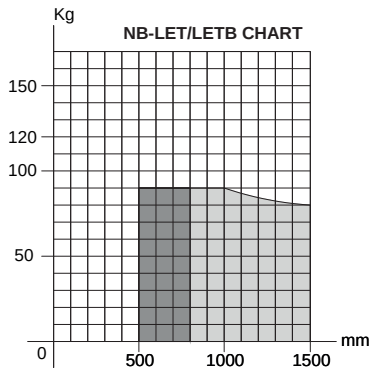


Usable leaf length and weight

Usable leaf length and weight with different fastening dimensions
Installation drawings available upon request

Unusable leaf length and weight





ONLY FOR SPRING MODELS
NB-LET / LETB / SLT / SLTB

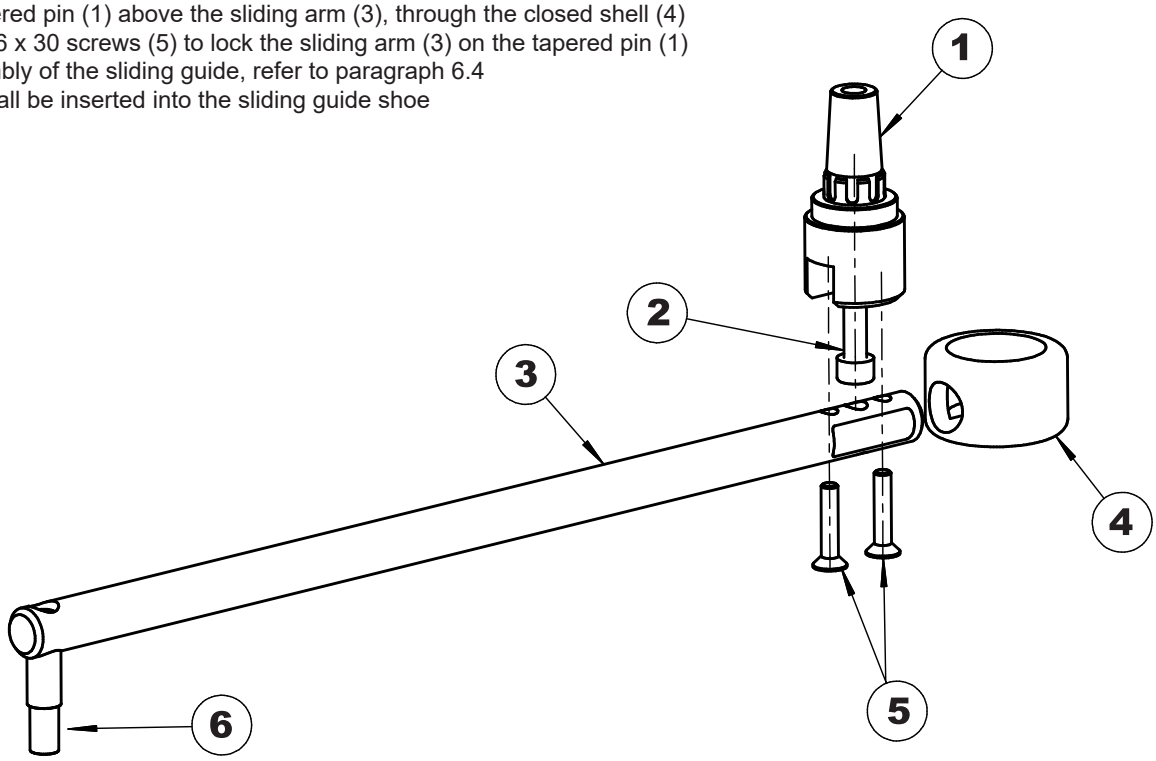
For this application, please consider that the PWB cabling board must be on the hinged side of the door for a correct movement direction when opening.
It is necessary to install a mechanical stop in open door position

A = STANDARD TAPERED PIN
Should it be necessary to increase the distance between the automation and the arm (dimension X), replace the standard tapered pin with the following optional extensions:
B = EXTB-Z TAPERED PIN (optional) for mm. 24 shaft extension
C = EXTC-Z EXTENSION (optional) for TAPERED PIN for mm. 48 shaft extension

6) MOVEMENT TRANSMISSION ARMS

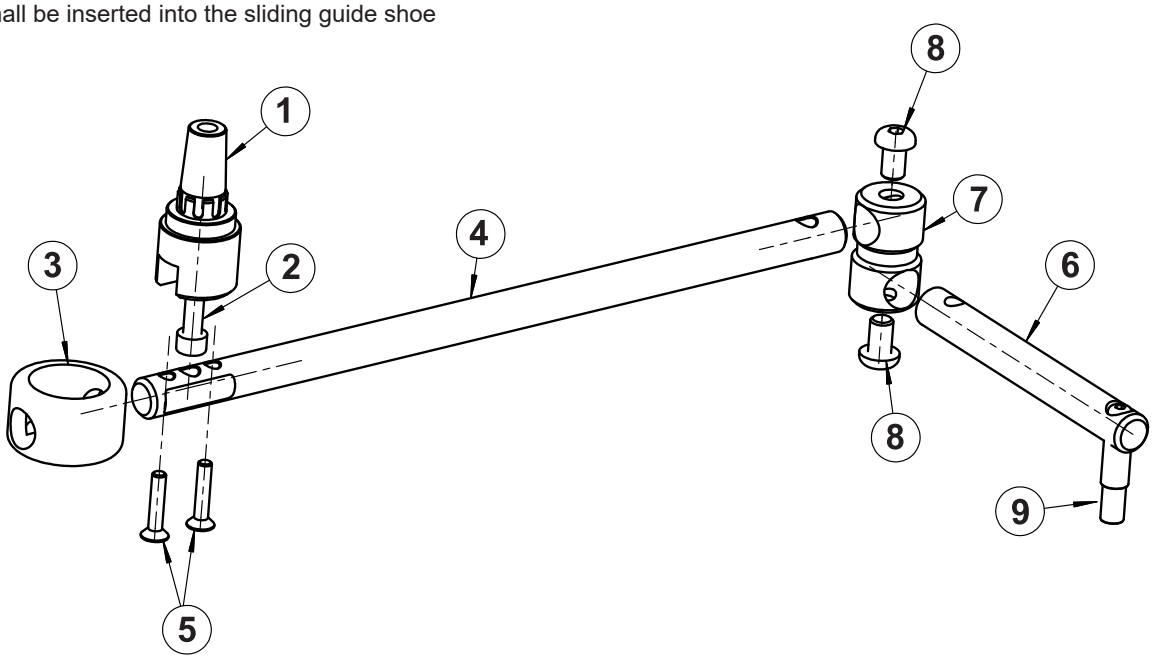
6.1) SLIDE PULL ARM BDT2

a) Insert the M8 x 70 screw (2) in the tapered pin (1);
b) Insert the sliding arm (3) into the closed shell (4)
c) Insert the tapered pin (1) above the sliding arm (3), through the closed shell (4)
d) Tighten the M6 x 30 screws (5) to lock the sliding arm (3) on the tapered pin (1)
e) For the assembly of the sliding guide, refer to paragraph 6.4
f) The pin (6) shall be inserted into the sliding guide shoe



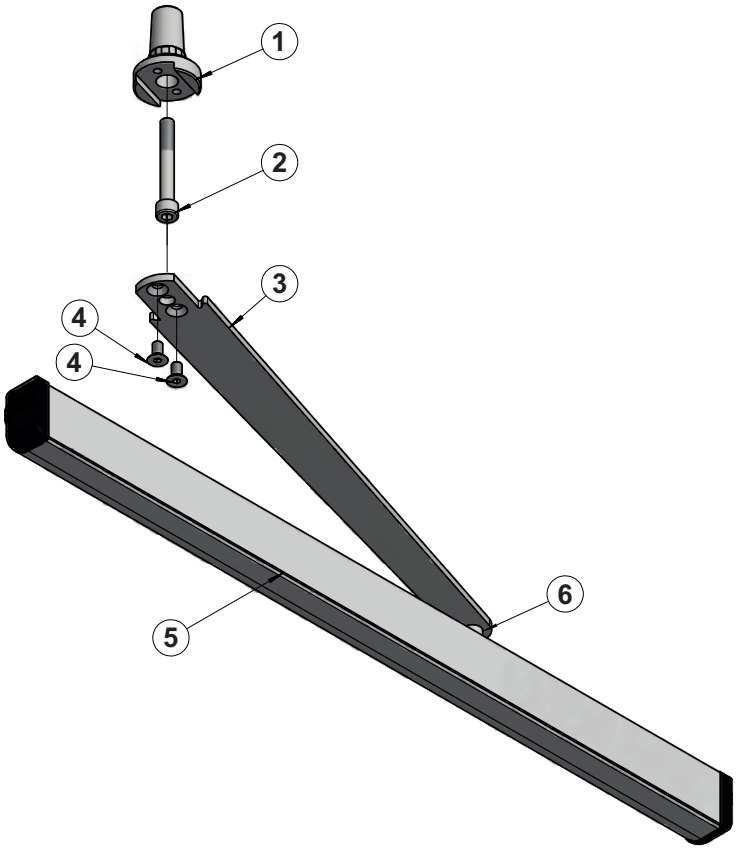
6.2) SLIDING ELBOW ARM BSG 150 / BSG 250

a) Insert the M8 x 70 screw (2) in the tapered pin (1);
b) Insert the long arm rod (4) into the closed shell (3)
c) Insert the tapered pin (1) above the long arm rod (4), through the closed shell (3)
d) Tighten the M6 x 30 screws (5) to lock the long arm rod (4) on the tapered pin (1)
e) Insert the long (4) and short (6) rods into the bushing (7) and fasten them with the M10 x 6 screws (8)
f) For the assembly of the sliding guide, refer to paragraph 6.4
g) The pin (9) shall be inserted into the sliding guide shoe



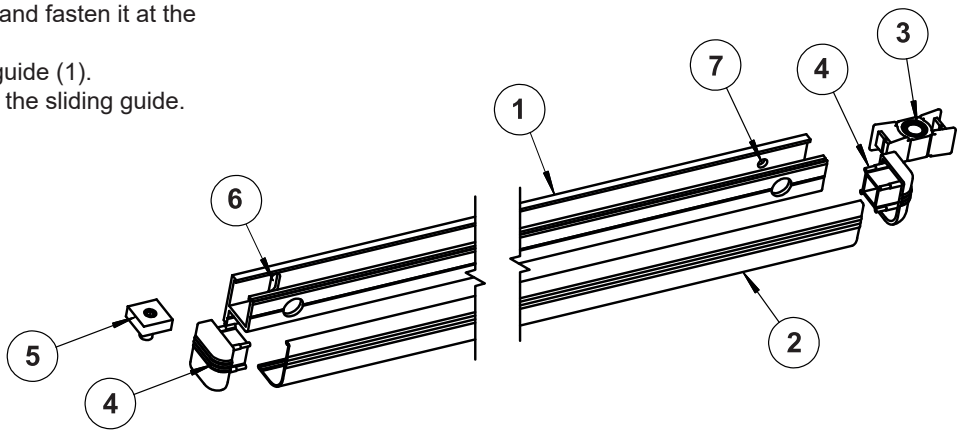
6.3) SHORT SLIDE PULL ARM BDT2R55

a) Insert the M8 x 60 screw (2) in the tapered pin (1);
b) Insert the sliding arm (3) into the tapered pin (1) and fasten it with the M6 x 12 screws (4)
c) For the assembly of the sliding guide (5), refer to paragraph 6.4
d) The pin (6) shall be inserted into the sliding guide shoe



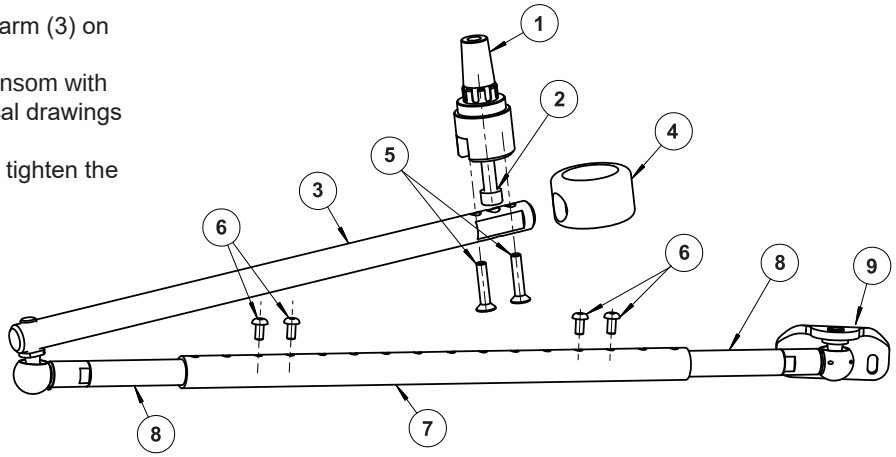
6.4) SLIDING GUIDE FOR PULL ARM

a) Fasten the sliding guide (1) on the leaf through the hole (6-7), following the dimensions specified in the technical drawings in paragraphs 5.1, 5.2, 5.3.
b) Insert into the sliding guide the shoe (3) on which the pull arm pin shall operate.
c) Insert the striker (5) into the sliding guide and fasten it at the opening limit position with the dowel.
d) Place the cover casing (2) on the sliding guide (1).
e) Insert the two side caps (4) at the ends of the sliding guide.



6.5) BSS2 ARTICULATED PUSH ARM

a) Insert the M8 x 70 screw (2) in the tapered pin (1);
b) Insert the lever arm (3) into the closed shell (4)
c) Insert the tapered pin (1) above the lever arm (3), through the closed shell (4)
d) Tighten the M6 x 30 screws (5) to lock the lever arm (3) on the tapered pin (1)
e) Fasten the arm plate (9) on the leaf or on the transom with two screws, at the points specified in the technical drawings in paragraphs 5.4 or 5.5
f) Adjust the length of the telescopic arm (7-8) and tighten the screws (6)



6.6) EXTB-Z TAPERED PIN

Use the tapered pin EXTB-Z if the required arm-automation distance is greater than the one ensured by the standard tapered pin.
For the installation dimensions, refer to the technical drawings contained in para. 5.
For the assembly, follow the steps shown in the figures below:
insert the M8 X 90 screw into the tapered pin (A), insert the arm into the closed shell(B), insert the tapered pin into the arm (C) and tighten the two M6 X 20 screws (D).

A

B

C

D

6.7) EXTENSION FOR EXTB-Z TAPERED PIN

Use the EXTC-Z extension if the required automation-arm distance is greater than the one you can achieve using the standard and EXTB-Z tapered pins.
Couple the EXTC-Z extension with the standard or EXTB-Z tapered pin (depending on the distance you have to achieve, specified in the technical drawings contained in para. 5).
For the assembly, follow the steps shown in the figures below:
couple the EXTC-Z extension with the tapered pin and insert the central screw (E), tighten the two M6 X 65 side screws (F), insert the extension into the arm and tighten the two M6 X 20 screws (G).

E

F

G

7) PREPARATION AND INSTALLATION OF THE AUTOMATION

7.1) TOOLS REQUIRED:

Tape measure, drill, level, thin flat-head screwdriver, medium-sized flat-head screwdriver, large cross-head screwdriver, Allen wrenches with handle (sizes 2.5 - 4 - 5 - 6), flat-head wrench 10.

7.2) AUTOMATION CHECK

Remove the automation from the packaging and remove the cover retaining screws.

Extract the aluminium cover from its seat by pulling it hard upward, if possible without exerting any pressure on the sides.

The Neptis Plus automation allows the arm to be connected on both sides of the mechanical body, and thus to select the direction of the opening movement.
A label affixed on the mechanical body at the shaft output indicates the opening direction.

Identify the correct pin connection side according to the arm type and to the automation installation type; carefully refer to the technical drawings in paragraph 5.

⚠ **For NB-LET, NB-LETB, NB-SLT, NB-SLTB automations only: do not remove the spring preload locking screw!**

Automations with built-in springs have a spring preload locking screw that keeps the pulley locked, making it possible for the spring to remain in its preloaded position (factory setting).

Removing the spring preload locking screw would cause pulleys and gears to move inside the automation, endangering any fingers or other body parts that should be close to the moving components.

☞ The spring preload locking screw must not be removed before the installation has been completed and the arm has been connected to the leaf and to the automation shaft output, to prevent the spring from being released. Follow the instructions to ensure that all installation steps are performed properly.

7.3) AUTOMATION INSTALLATION

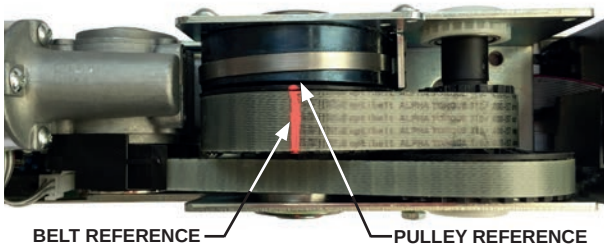
Depending on the arm type to be used and on the automation fastening position, refer to the relevant installation table (para. 5.1 to 5.6), which specify the points where you must drill the holes required to install the automation and the pulling arm.
For the assembly of the arm, refer to paragraph 6.

☞ To fasten the devices, use suitable screws and fixings.

After fastening the automation and arm, follow the next steps to connect the arm pin to the shaft output of the Neptis Plus automation.

7.4) CHOICE OF THE SPRING LOAD (FOR NEPTIS PLUS NB-LET, NB-LETB, NB-SLT, NB-SLTB AUTOMATIONS ONLY)

The closing spring is factory-preloaded to a standard value, which is indicated by the alignment of the red line on the belt with the red mark on the pulley.

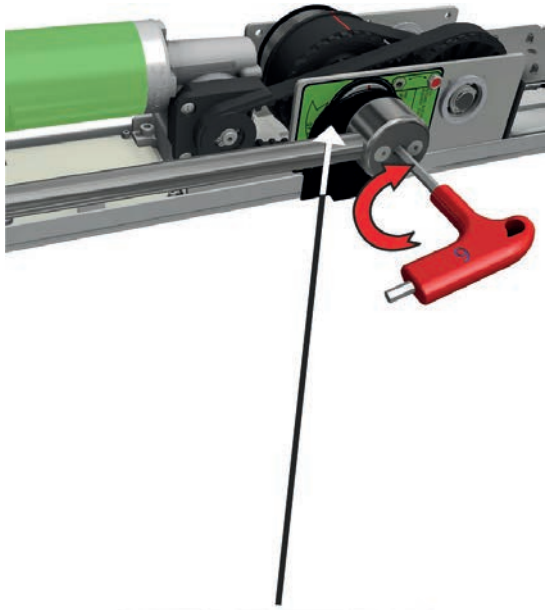


Select the spring re-closing force according to the following rule:

- Connect the arm to the automation output shaft with the leaf completely open to obtain a low re-closing force (minimum spring load).
- Connect the arm to the automation output shaft with the leaf in an intermediate position to obtain a medium re-closing force (medium spring load).
- Connect the arm to the automation output shaft with the leaf completely closed to obtain a high re-closing force (maximum spring load).

7.5) INSERTION OF THE ARM TAPERED PIN

Make sure that the plastic plate is inserted in the mechanical body of the automation, where the output shaft is located, before inserting the arm pin.



The arm pin has some joints that must perfectly mesh with those existing in the automation output shaft; their function is ensuring that the arm pin always moves integrally with the automation motion transmission shaft.

Insert the arm pin into the output shaft of the automation, making sure that the joints on the two parts mesh properly, then tighten the arm pin setscrew to a torque of 19Nm.

Only for NB-SMT, NB-SMTB Neptis Plus automations without spring

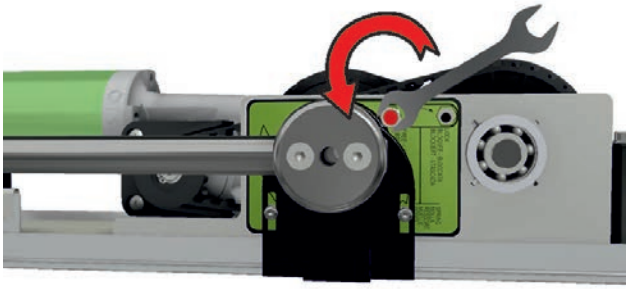
If the leaf moves properly throughout its stroke, both when opening and when closing, proceed with the electrical connections as described in the Electronics section, in paragraph "Electrical connections".

for Neptis Plus NB-LET, NB-LETB, NB-SLT, NB-SLTB automations only
Follow the steps described in the next chapter.

7.6) SPRING RELEASE (FOR NEPTIS PLUS NB-LET, NB-LETB, NB-SLT, NB-SLTB AUTOMATIONS ONLY)

⚠ During this operation the automation pulleys and the arm may start moving; move your fingers or other body part away from the moving components during this operation and keep the leaf manually locked.

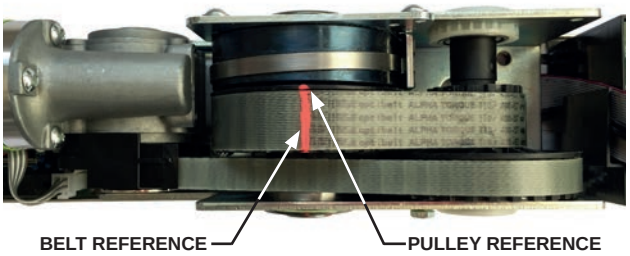
Move the spring locking screw from the locked position to the released position.
The door leaf is free to close by means of the power of the spring.
Make sure that the door fully closes even when it is opened by a few degrees.
If the leaf moves properly throughout its stroke, both when opening and when closing, proceed with the electrical connections as described in the Electronics section, in paragraph "Electrical connections".
Should the spring load have to be increased or decreased, instead, the arm must be removed from the automation; for this operation, refer to the next paragraph.



8) ARM REMOVAL

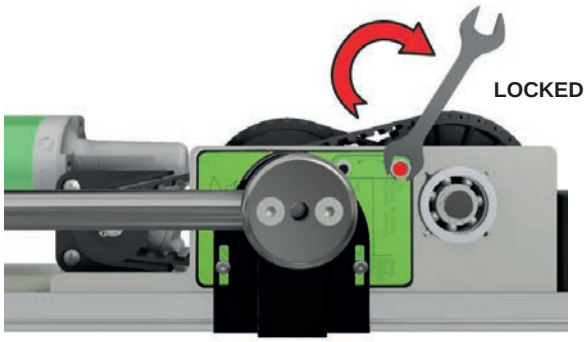
(for Neptis Plus NB-LET, NB-LETB, NB-SLT, NB-SLTB automations only)

⚠ Strictly follow the steps described below to remove the arm; in particular, only unscrew the tapered pin setscrew after the spring has been locked.
Removing the tapered pin's setscrew can cause the pulleys and gears of the automation to move, if the re-closure spring has not been locked in advance.
Move your fingers or other body part away from the moving components during this operation.



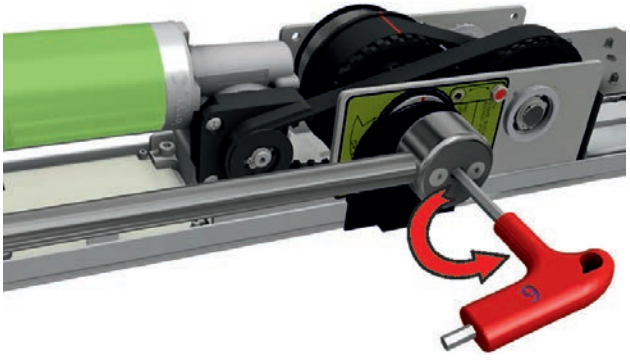
RESETTING THE PRELOAD VALUE
Before removing the arm, reset the preload value (factory settings). To this purpose, manually move the leaf to the point where the red line on the belt is aligned with the red mark on the pulley.

Spring lock
Move the spring preload locking screw from the released position to the locked position, taking care to ensure that the screw is inserted into the pulley.



TAPERED PIN EXTRACTION

Insert the Allen wrench (6mm.) into the tapered pin hole without removing the arm rod.
Unscrew the arm setscrew, exerting a greater force in the final stage of the operation to extract the tapered pin.



✎ Repeat the steps described in par. 7.4, 7.5 and 7.6 to select the spring re-closing force and to connect the arm.

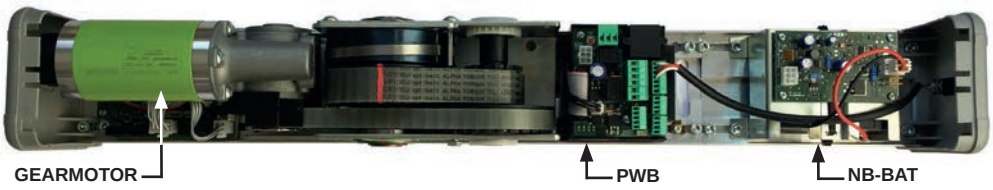
9) NEPTIS PLUS AUTOMATIONS WITH BATTERY (SLTB, LETB, SMTB MODELS)

This type of automation has a built-on NB-BAT battery module, designed to ensure that the automation keeps running when no power supply is available.

Location of the NB-BAT module inside the Neptis Plus automation.

The location of the NB-BAT module inside the automation depends on the type of arm in use.
When using the BDT2, BDT2R55 or BDT2R90 slide pull arm and the BSG elbow arm, the NB-BAT module must be next to the PWB power supply unit (FIG.1).

FIG.1



When using the BSS2 articulated push arm and the BDS slide push arm, the N-BAT module must be next to the gearmotor (FIG. 2).

FIG.2

Label provides as standard the Neptis Plus automation with NB-BAT module installed on the gearmotor side, and thus set up for push opening (FIG.3).

FIG.3

If you must use a BDT2, BDT2R55 or BSG arm for pull opening, you will have to move the NB-BAT module to the opposite side, performing the following operations:

a) Disconnect the connection cable between the J1 connector of the NB-BAT module and the J3 connector of the PWB power supply, than cut the straps holding it fastened to the mechanical body of the automation;

b) Remove the plastic side caps from the automation by unscrewing the relevant screws;

c) Detach the NB-BAT module from the Neptis Plus automation, unscrewing the M6X8 screws fixing the coupling plates (P) between the two parts;

d) Place the NB-BAT module on the side of the PWB power supply unit, inserting the coupling plates (P) into the special grooves and screwing in the M6x8 screws (FIG.4);

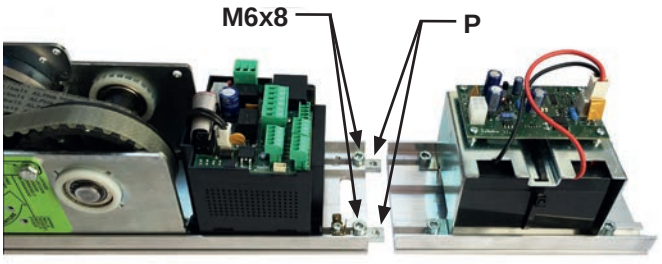


FIG.4

The automation is now ready to be used with the pulling arm (FIG.5).

e) Reinstall the plastic side caps to the side of the automation.

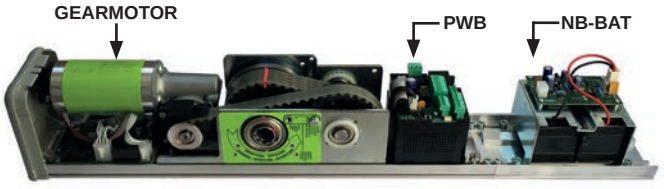


FIG.5

NOTE: for information about the automation installation dimensions, please refer to the technical drawings in paragraph 5, taking into account that the battery module is always on the side opposite to the door pivots.
The automation's cover is equipped with a double slot, so that it can be installed on both sides, depending on the position of the NB-BAT module inside the automation.
For information on the electrical connection and the operation, please refer to the paragraph "NB-BAT BATTERY MODULE" in the "ELECTRONICS" section

10) SPRING PRE-LOAD RESETTING PROCEDURE (FOR SLT, SLTB, LET, LETB MODELS ONLY)

Only read this paragraph if the re-closure spring load decreases due to the failure to comply with the correct installation procedures.

The automation is supplied with the re-closing spring preloaded to a standard value, which is indicated by the alignment of the red mark on the belt with the red mark on the pulley (see the figure aside).
If, during installation, the arm is unintentionally disconnected without first resetting and locking the spring with the locking screw, the spring loosens well beyond its standard value.
To move it back to the correct position, strictly follow the steps listed below:

a) Fully disconnect the arm from the output pin, if it is still inserted.

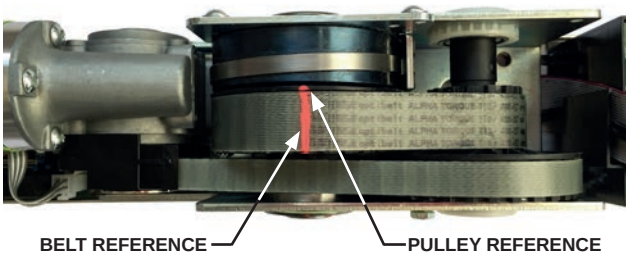
b) Make sure that the manual program selector on the side of the automation is set to "0".

c) Connect the mains power supply
(see paragraph ELECTRICAL CONNECTIONS).

d) Erase the set-up if it has already been stored on the automation control unit (see paragraph "MAINTENANCE")

e) Press and hold pressed the PS1 (START) button on the PWB card; the control unit emits 5 beeps and starts the spring loading operation.

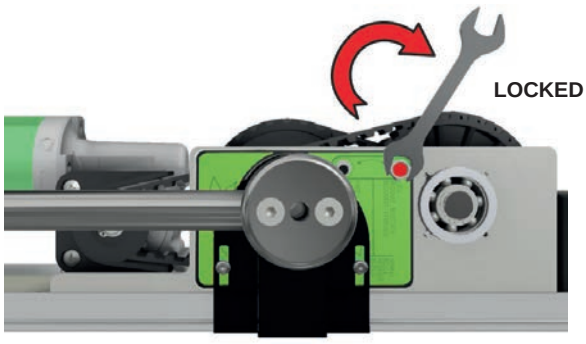
Reset the spring load to the standard value indicated by the alignment of the red mark on the belt with the red mark on the pulley (see the figure aside); once the position has been reached, release the PS1 button.



If, during the re-loading operation, the spring should exceed the preset level indicated by the red line, you can slowly decrease its load by moving to position **I** the manual program selector.
In position **II**, instead, the spring will rewind quickly!

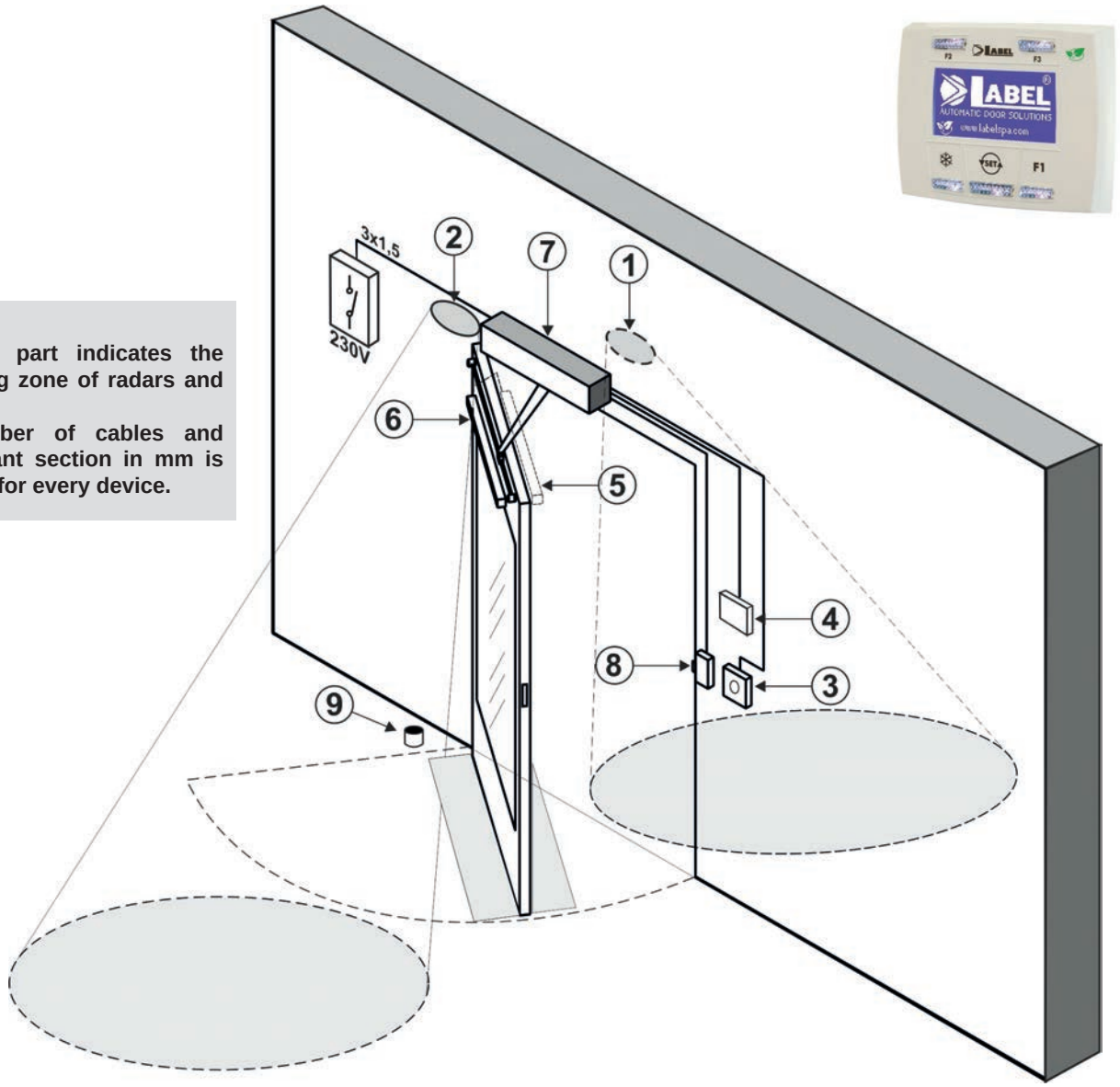
Move your fingers or other body part away from the moving components.

f) Move the locking screw from the released position to the locked position, taking care to ensure that the screw is inserted into the pulley.
g) After this operation the initial set-up must be repeated (see paragraph "INITIAL SET-UP").



11) ELECTRIC ARRANGEMENTS

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



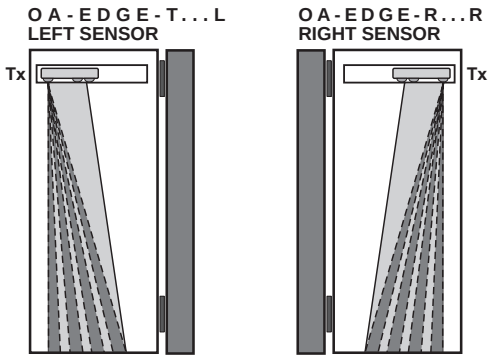
① **EXTERNAL RADAR (4x0.5mm)**
② **INTERNAL RADAR (4x0.5mm)**
③ **OPENING CONTROL (2X0.5MM)**
④ **PROGRAM SELECTOR (4x0.5mm)**
⑤ **CLOSURE SAFETY SENSOR (6x0.5mm)**
⑥ **OPENING SAFETY SENSOR (6x0.5mm)**
⑦ **AUTOMATION Neptis Plus (mains power 3x1mm)**
⑧ **ELECTRIC LOCK (2x1mm)**
⑨ **FLOOR STOP**

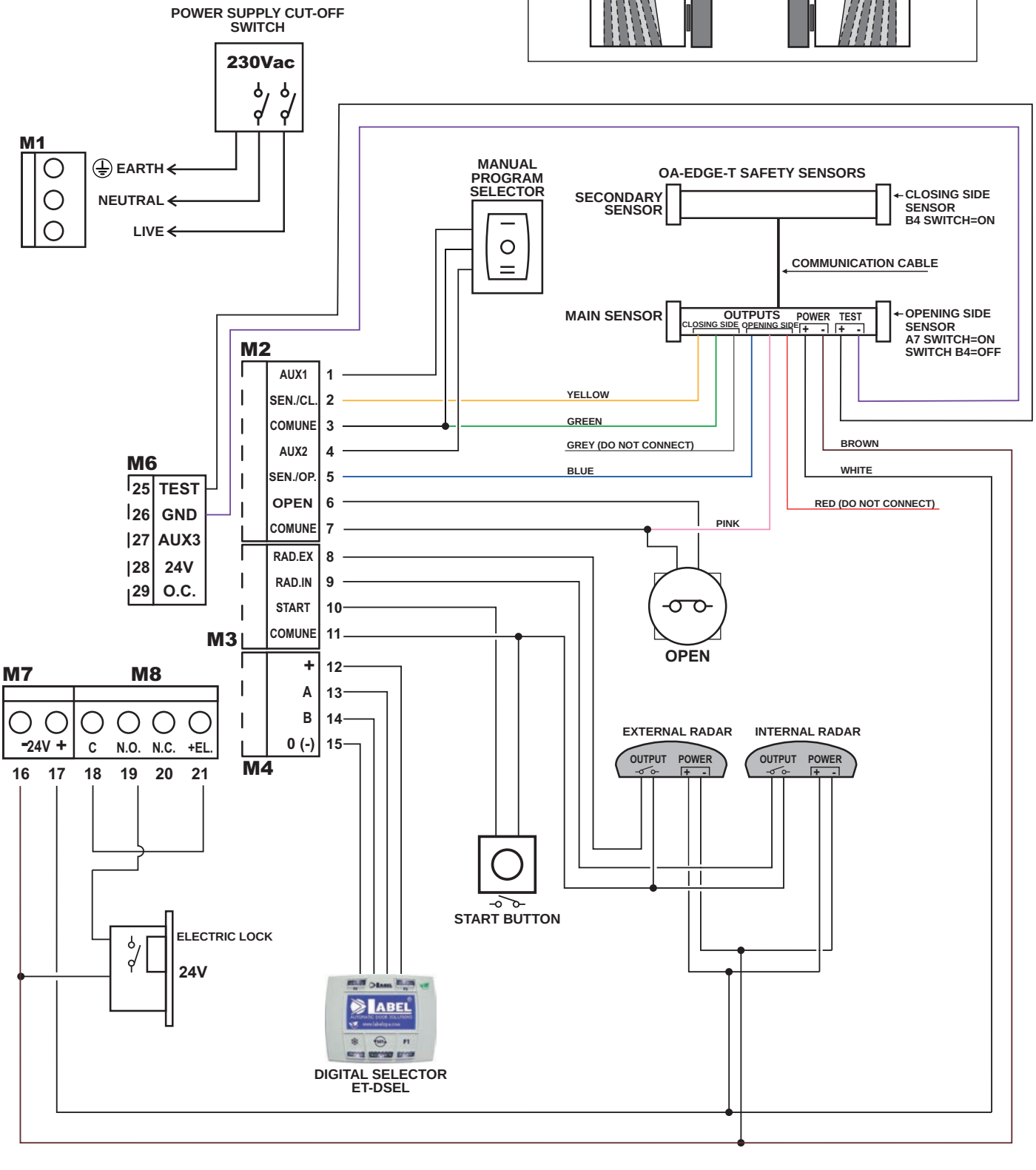
⚠
- The power supply line must be protected against short circuit and leakage to ground.
- On the power supply mains, provide an omnipolar switch/cut off device with contact opening distance of at least 3 mm
- Use self-extinguishing cables for electrical connections.

☞
- Separate the mains power supply line from the extra-low voltage line control unit relative to control and safety accessories.
- On the plastic side caps of the automation Neptis Plus there are holes that must be broken open, through which the electric cables must be inserted.
  The installer must take care to secure the power supply cable inside the automation and, in particular, to limit the stripping of the primary sheath of the cable, so that the surface and air distances do not reduce if a wire comes off the terminal.
- If the automation is installed on a leaf, make the electrical connections using a junction box with suitable commercially available flexible tubes and joints.

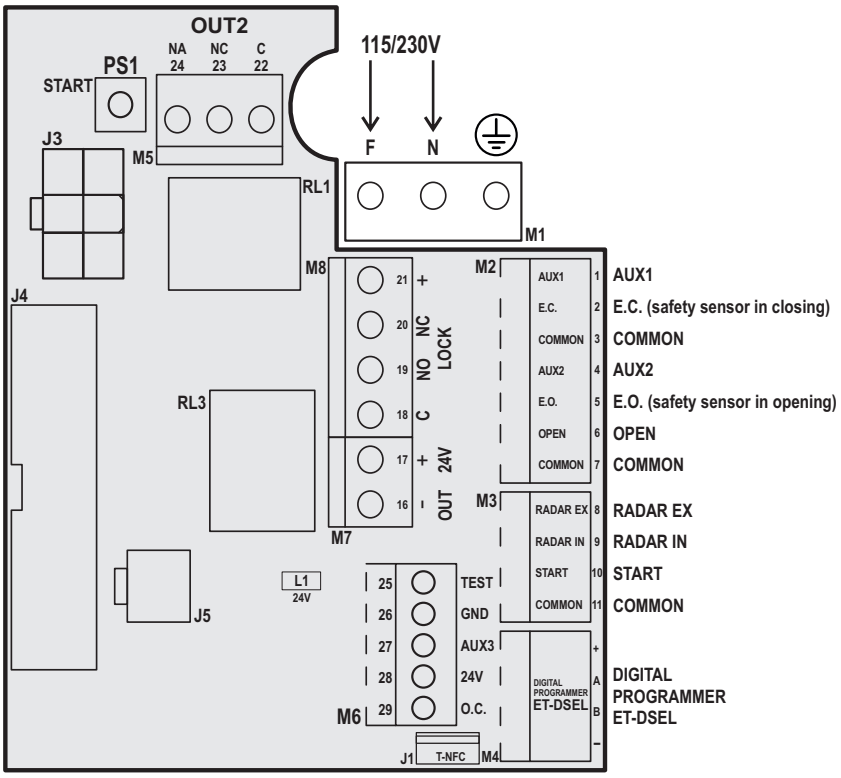
PWB

The lens with the TX marking must be positioned corresponding to the end of the door.





13) PWB ELECTRICAL WIRING AND POWER SUPPLY MODULE



AUX1
E.C. (safety sensor in closing)
COMMON
AUX2
E.O. (safety sensor in opening)
OPEN
COMMON
RADAR EX
RADAR IN
START
COMMON
DIGITAL PROGRAMMER ET-DSEL

STEP 1

Separate view of the parts

STEP 2

Connection to the power supply terminal

STEP 3

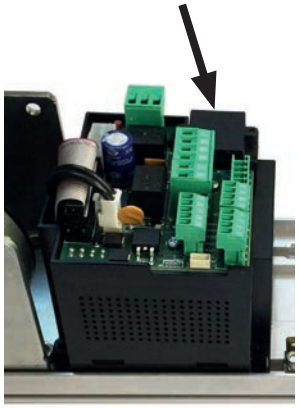
Insertion of wired terminal into the protective enclosure

STEP 4

Closing of the protective enclosure

STEP 5

115/230V power supply connectors



TERMINAL BOARD M1

115/230 Vac power supply: phase at terminal F, neutral at terminal N, ground connection at terminal ⏚

TERMINAL BOARD M2

Terminals 1-3-4
MANUAL PROGRAM SELECTOR, located in the side cap of the automation (factory wiring):

- closed contact on position I at terminal 1 (AUX1);
- central contact at terminal 3 (common);
- closed contact on position II at terminal 4 (AUX2);

- For further information on the operating modes of the manual program selector, refer to para. “Program selectors”.

NOTE: if ET-DSEL digital programmer is present the activation of the AUX2 input enables the night lock function, by-passing ET-DSEL digital programmer setting.

Terminals 2-3
input of CLOSING SAFETY SENSOR, N.C. contact.
The operation of the closing safety sensor must be enabled by the ET-DSEL digital selector (function F11 ON).
Activation while the door is closing causes it to reopen.

Terminals 5-7
input of OPENING SAFETY SENSOR, N.C. contact.
The operation of safety sensor for closing must be enabled by ET-DSEL digital selector (function F12 ON).
Activation while the door is opening causes the leaf movement to stop; the opening resumes at slow speed when the sensor disengages.

Terminals 6-7
OPEN input.
The input contact logic state can be selected either as N.O. (default condition) or N.C. using the ET-DSEL digital selector (function 21).
The activation allows opening the door in all operating programs.

TERMINAL BOARD M3

Terminals 8-11
EXTERNAL RADAR input, N.O. contact.
It controls the door opening.
It is not active when the program selector is set to “Exit Only” and “Night Lock”.

Terminals 9-11
INTERNAL RADAR input, N.O. contact.
It controls the door opening.
It is not active when the program selector is set to “Entry Only” and “Night Lock”.

Terminals 10-11
START input., N.O. contact.
It controls the door opening.

TERMINAL BOARD M4

Connection of the ET-DSEL digital selector
Terminal + = (power supply positive);
Terminal A = signal line A;
Terminal B = signal line B;
Terminal - = (Power supply negative).

TERMINAL BOARD M5 - OUT2

Terminals 22-23-24
Relay potential free contact RL1 (22 = COMMON 23 = N.C., 24 = N.O.)
The output operation depends on the setting of function F41m (see FUNCTION TABLE).

TERMINAL BOARD M6

Terminal 25
TEST output for the safety sensors set for monitoring.
- For details, refer to the "Safety sensors" paragraph.

Terminals 26-27
AUX 3 input., N.O. contact.
It is enabled in the applications with interlock (function F26 = ON and F29 = ON).
It controls the door opening in all operating programs.
- For details, refer to the "Interlock System" paragraph

Terminals 28-29
Open Collector NPN output.
The operation depends on the setting of function F41m (see FUNCTION TABLE).
Connect a max load of 100mA between terminals 29 (O.C.) and 28 (positive + 24V).
- In the Interlock function (F26 = ON), terminal 29 is used for the interlock operation connection; for further information, refer to the “Interlock system” paragraph.

TERMINAL BOARD M7

Terminals 16 (negative) - 17 (positive)
24Vdc, 1A output supplying power to the control and safety sensors.
When the L1 LED is on, the output is working properly.

TERMINAL BOARD M8

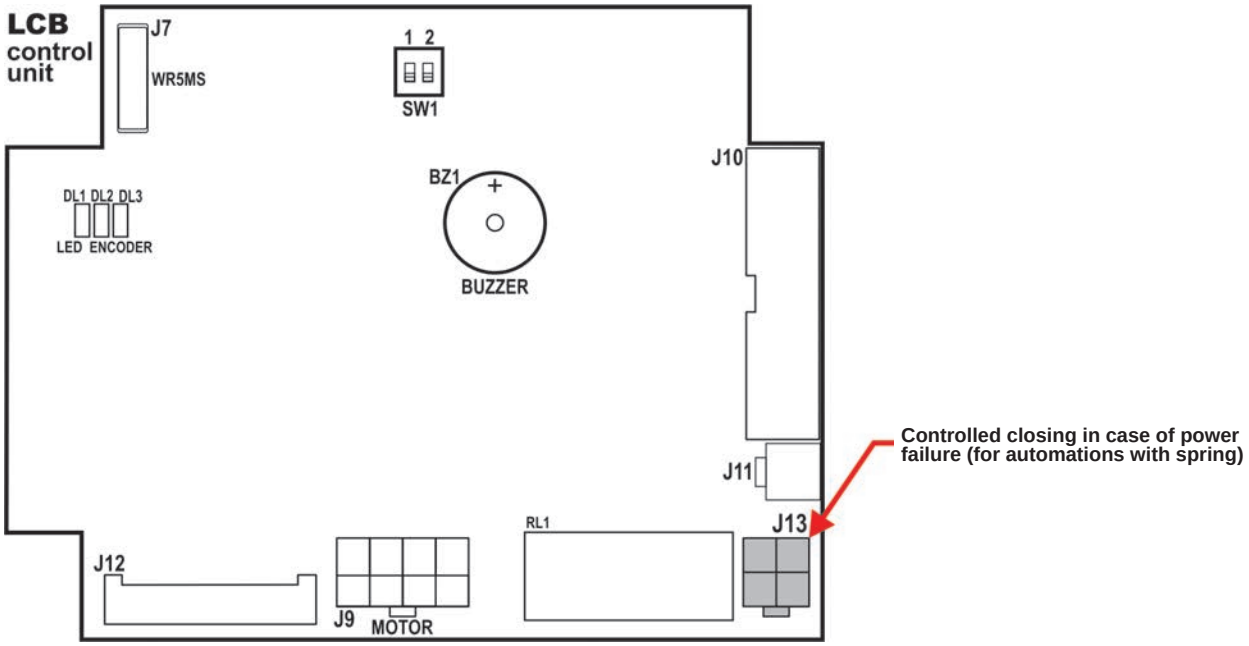
Terminals 18-19-20
Relay potential free contact RL3 for electric lock connection (18 = Common 19 = N.O., 20 = N.C.).

Terminals 16 (negative) - 21 (positive)
24Vdc output supplying power to the electric lock or to the electromagnet.
- For details, refer to the paragraph "Applications with electric lock".

CONNECTORS

Connector J1 = connector for digital selector T-NFC
Connector J3 = connection of the battery module NB-BAT (see para. “Battery module NB-BAT”)
Connector J4 = wiring of electrical signals to connector J10 of the LCB logic card.
Connector J5 = wiring of motor power supply to connector J11 of the LCB logic card.
When LED 1 is on the output voltage is present.

13.1) LOGIC CARD LCB



PART DESCRIPTION

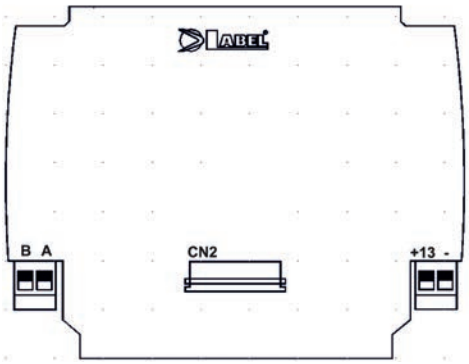
Connector J7	=	WR5MS wiring for Master Slave communication in dual leaf swing door. For details, refer to the paragraph "Dual leaf swing door".
Connector J9	=	Motor-encoder wiring connector.
Connector J10	=	Wiring of electrical signals from connector J4 of the PWB module.
Connector J11	=	Wiring of motor power supply from connector J5 of the PWB module.
Connector J12	=	Connector for EN/RF1 radio receiver. For details, refer to the paragraph "EN/RF1 radio receiver"
Connector J13	=	Wiring of the magnetic clutch for assisted opening and controlled closing (for automations with spring)
DL1, DL2, DL3	=	Encoder signal display LED.
Buzzer	=	Audible warning device.
SW1	=	Dip-switch for automation type selector: 1 OFF / 2 OFF = single leaf automation or Master in dual leaf 1 ON / 2 OFF = Slave automation in dual leaf

14) DIGITAL SELECTOR ET-DSEL – PURPOSE AND CONNECTIONS

The digital selector ET-DSEL is the essential tool for the installer, to configure the automatic door operation and perform the setup and function/parameter setting operations, to carry out the system diagnostics and to access the event memory containing information about the automation and its operation.
Access to the programming menu is protected by a technical security password, to ensure that only authorized specialised personnel can perform operations on the automation.

The digital selector ET-DSEL can also be used by the final user, but only to select the operating mode of the automatic door; the user can also select the preferred language and set up a user password to prevent the use of the digital selector by unauthorized persons.

Connect the digital selector N-DSEL to the PWB module of the Neptis Plus automation, using a 4-conductor cable with a diameter of 0.5 mm.



Terminal +13V = connect to the **+** terminal of the PWB card (+ positive);
Terminal - = connect to the **0** terminal of the PWB card (- negative);
Terminal A = connect to the **A** terminal of the PWB card;
Terminal B = connect to the **B** terminal of the PWB card;

For each subject-matter described in the following paragraphs, the use of the digital selector (hereinafter ET-DSEL) is explained in the specific case.

15) SAFETY SENSORS

This section describes how to connect and setup correctly some of the safety sensors compliant with the standard EN12987 available on the market, to ensure a safety level which corresponds to PL = c, Category 2 as provided for by the standard EN16005.

15.1) SAFETY SENSOR OA-EDGE T

This section describes how to connect and setup the safety sensors in accordance with the standard EN16005.

OA-EDGE T SENSOR WIRING				Neptis Plus AUTOMATION PWB TERMINAL BOARD		
Wiring between the sensor and the terminal of the control unit PWB						
1. WHITE	(+)	Power supply		TERMINAL	17	(+)
2. BROWN	(-)	Power supply		TERMINAL	16	(-)
3. GREEN	COM	(Closing side)		TERMINAL	3	COM
4. YELLOW	N.C.	(Closing side)		TERMINAL	2	Closing safety sensor
5. GREY	N.O.	(Closing side)	do not connect			
6. PINK	COM	(Opening side)		TERMINAL	7	COM
7. BLUE	N.C.	(Opening side)		TERMINAL	5	Opening safety sensor
8. RED	N.O.	(Opening side)	do not connect			
9. BLACK	(+)	Test input		TERMINAL	25	TEST(+)
10. VIOLET	(-)	Test input		TERMINAL	26	GND (-)

DIP SWITCH SETTING ON OA-EDGE T		PARAMETERS ON DIGITAL SELECTOR ET-DSEL	
A7 = ON	Low level test input.	**F11 (S05) = ON**	Closing safety sensor
A8 = OFF	Input test delay 10msec.	**F12 (S06) = ON**	Opening safety sensor
B4 = OFF	Sensor installed on opening side.	**F13 (S07) = ON**	TEST of closing safety sensor
B4 = ON	Sensor installed on closing side.	**F14 (S08) = ON**	TEST of opening safety sensor
		F15 (S09) = OFF	Test level LOW

15.2) FLAT SCAN SAFETY SENSOR

FLAT SCAN SENSOR WIRING			Neptis Plus AUTOMATION PWB TERMINAL BOARD		
Wiring between the sensor and the terminal of the control unit PWB					
1. GREEN	(+)	Power supply	TERMINAL	17	(+)
2. BROWN	(-)	Power supply	TERMINAL	16	(-)
3. YELLOW	COM	(Opening side)	TERMINAL	7	COM
4. WHITE	N.C.	(Opening side)	TERMINAL	5	Opening safety sensor
5. PINK	COM	(Closing side)	TERMINAL	3	COM
6. GREY	N.C.	(Closing side)	TERMINAL	2	Closing safety sensor
7. RED	(+)	Test input	TERMINAL	25	TEST(+)
8. BLUE	(-)	Test input	TERMINAL	26	GND (-)

DIP SWITCH SETTING ON FLAT SCAN		PARAMETERS ON DIGITAL SELECTOR ET-DSEL	
DIP 1 ON	Sensor installed on opening side.	**F11 (S05) = ON**	Closing safety sensor
DIP 1 OFF	Sensor installed on closing side.	**F12 (S06) = ON**	Opening safety sensor
		F13 (S07) = ON	TEST of closing safety sensor
		F14 (S08) = ON	TEST of opening safety sensor
		F15 (S09) = OFF	Test level LOW

The safety sensor operation test is carried out at the beginning of each door opening and closing cycle.
Should the sensor fail to properly respond to the test request by the automation control unit, the control unit buzzer will beep and the leaf motion speed will be slow throughout the entire run.

16) COMMISSIONING OF THE AUTOMATION (INITIAL SETUP)

After completing the mechanical installation and performing the electrical connections, manually move the leaf along its entire stroke, checking that the movement is frictionless.
SET-UP operation is compulsory to allow the automation electronic control unit getting run limit positions.
When the setup begins, the door must be closed and during the run learning cycle, no obstacle must be in the leaf motion area.
The Neptis Plus automation is equipped with a function allowing it to learn the position of the side wall during the initial set-up.
This function is useful as it allows to store the wall position at the end of the opening run, and as a consequence to precisely set the point where the tripping of the opening safety sensor causes leaf slowdown in the last few degrees of the opening stage.
It is important that you adjust the safety sensor detection range before starting the automation setup cycle.

If the Neptis Plus automation controls a single leaf automatic door, switches 1 and 2 on the dip-switch SW1 of the LCB logic card must be set to OFF.
If two Neptis Plus automations must control a dual leaf automatic door, refer to the paragraph "Dual leaf door".

Follow chapter 16.1 only if the digital selector ET-DSEL is new and is powered on for the first time.
Follow chapter 16.2 if the digital selector has already been used before.

16.1) FIRST START OF THE DIGITAL SELECTOR ET-DSEL

Power the automation Neptis Plus with mains voltage, the control unit buzzer emits a few quick, short beeps.

- Language selection is shown on the display of the digital selector ET-DSEL;
- use the buttons **F2** and ❄ to move the arrow in correspondence with the language desired.
- Press the EXIT (SET) button to exit the “Language” section and enter the “Serial communication settings” section, as described under para. 15.3.

16.2) SERIAL COMMUNICATION SETTINGS

Provide mains voltage to the automation Neptis Plus;
The control unit buzzer emits a few quick, short beeps.

The selector ET-DSEL automatically detects the presence of the automation electronic control unit (fig. A) and stores the LCB board serial code (fig. B).

When the acquisition of the serial code is completed, the display must show the closed padlock symbol on letter M and the open padlock symbol **?** if it is a single Neptis Plus automation (fig. C).

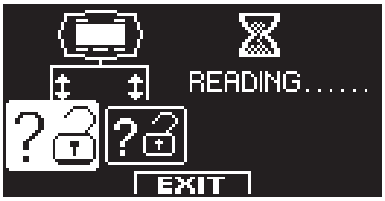


Fig.A

Fig.B

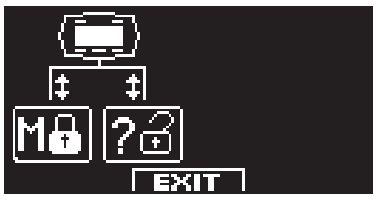


Fig.C

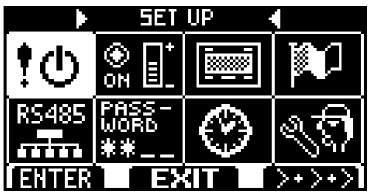
If it is a dual leaf swing door, refer to the paragraph “Dual leaf swing door”.

Press the EXIT button (SET) to exit the “Serial communication setups” section and enter the general programming menu.

16.3) INITIAL SETUP

From the general programming menu, the F1 button allows moving forward among menu symbols.
Select the INITIAL SETUP symbol.

Press quickly the ENTER ❄ button to enter the “INITIAL SETUP” section.



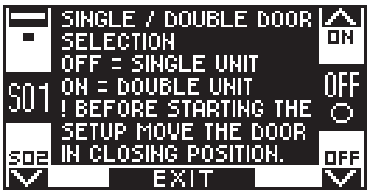
Enter the 10-character technical password to access setup.
The default technical password set by Label for the digital selector ET-DSEL is “A-A-A-A-A-A-A-A-A-A”
Press the button in correspondence with letter A, an asterisk appears on the position of the first letter; repeat this operation for all the other characters required.
If the password you entered is correct, you enter the configuration section of the setup; if the password you entered is incorrect, you are returned to the general programming menu.

It is advisable to change the technical default password. See paragraph “Password Management”.

FULL SETUP: mandatory for the first installation of the automation.
PARTIAL SETUP: to repeat leaf run learning if the mechanical limit stops are moved, without modifying the functions previously set.
WARNING! Partial setup does not work on a new automation on first installation. In this case, if it the Partial option is selected, the buzzer of the electronic control unit will report the fault emitting a continuous sound for 4 seconds. Press the button F1 to select the “FULL” setup.

In this section, the buttons F1 / F3 allow selecting the function OFF/ON status, while the button ❄ allows moving to the following function.
Press the button F2 to return to the previous function.

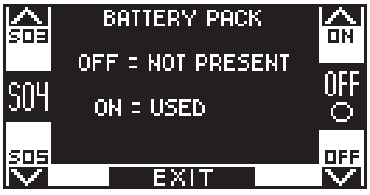
Select the door type:
single leaf OFF, or dual leaf ON (in the latter case refer to the paragraph “Dual leaf swing door”).



Only select ON if there is an electric lock.

Only if function S02 was set to ON.
If there is an electric lock, select its type:
Pulse OFF (electric lock or electric strike) or permanent ON (electromagnet).

BATTERY PACK
OFF = NOT PRESENT
ON = USED



Select ON only if a closure safety sensor has been installed (between terminals 2-3)

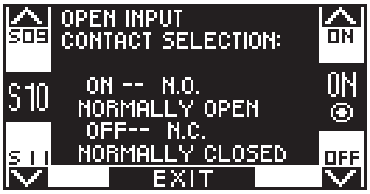
Select ON only if an opening safety sensor has been installed (between terminals 5-7)
We recommend that you adjust the safety sensor detection field before starting the set-up, to allow the automation to precisely store the position of any side wall.

Only if function S05 was set to ON.
Select ON if a monitored closing safety sensor was installed (as provided for by the standard EN 16005) in order to activate the sensor test at the beginning of each cycle.
Only select OFF if the safety closing sensor has not been setup to be monitored.
For details, refer to the paragraph "Safety sensors".

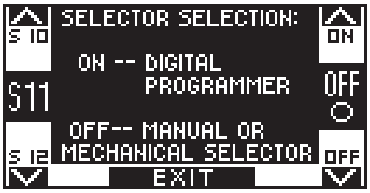
Only if function S06 was set to ON.
Select ON if a monitored opening safety sensor has been installed (as required by standard EN 16005) to activate the sensor test at the beginning of each cycle; only select OFF if the opening safety sensor has not been set up to be monitored.
For details, refer to the paragraph "Safety sensors".

Only if the functions S07 and/or S08 are set to ON.
Selects the logic state of the test, used by the automation control unit to monitor the safety sensors.
The setup depends on the characteristics of the sensor installed.
If the type of sensors in use is “FLAT SCAN” or OA-EDGET, select OFF.
If the type of sensors in use is “TOP SCAN-S”, select ON.
For details, refer to the paragraph "Safety sensors".

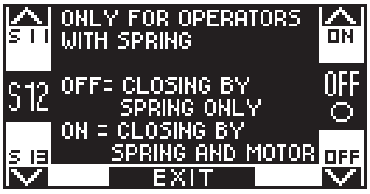
Contact configuration on OPEN input between terminals 6-7 of the PWB board.
Select ON with a normally open contact or if you do not use the OPEN input.
Select OFF if you use a device with a normally closed contact.



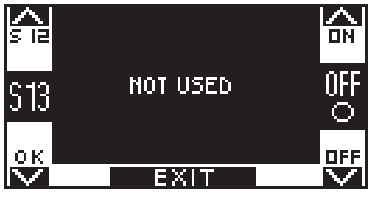
Choice of the work program selector.
OFF: Manual selector or mechanical selector EV-MSEL.
ON: Digital selector ET-DSEL or T-NFC.



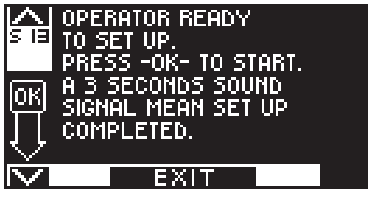
For Neptis Plus NB-LET, NB-LETB, NB-SLT, NB-SLTB automations only.
Select whether the door should only be closed by spring force (OFF), or if the motor (ON) must also be enabled to provide greater reclosing force.



Function NOT used.



The automation is ready for the set-up cycle.
Exit the detection range of the opening safety sensor during the setup, to allow the sensor to detect only the presence of any side wall at the end of the opening.
Press the button ❄ (OK).
The control unit buzzer emits 4 beeps and the slow speed opening cycle starts.
When the stroke ends a prolonged beep indicates that the set-up has been successfully performed.
The door re-closes automatically.



16.4) FUNCTIONAL TESTING

Select the automatic operation of the door using the program selector.
If you use the manual program selector, set it to **I**.

Refer to the “Program selectors” paragraph describing the types of selector provided for to select the automatic door operating mode.
To start an opening movement, press briefly the button PS1 (START) of the PWB module, or engage the door opening devices.

Ensure that the door opening and closing cycle is properly performed and that thrust organs and safety sensors operate; to adjust the sensor detection range, refer to the instructions provided with the sensor.
The opening safety sensor detects the presence of any side wall at the end of the opening run thanks to the automatic learning function during the initial set-up.
Should you need to change the optical adjustment of the safety sensor after performing the initial set-up of the automation, you can manually change the opening safety sensor inhibition distance by operating the P03 potentiometer (see para. "Parameter setting").
During door movement, intermittent signals emitted by the buzzer may be heard. They indicate that the limit power delivered by the automation has been reached, especially if leaf dimensions and weight are close to the limits allowed. A short noise signal by the buzzer during start in opening is to be considered as normal, as the pick-up phase requires maximum force.
Adjust the thrust power using the P32 potentiometer of the ET-DSEL programmer (see paragraph “Parameter Adjustment”).
To disable the buzzer noise signal when the power limit is reached, set the F49 function to ON (see “Functions setup”).

☞ The buzzer noise for almost the entire run means that the leaf exceeds the limits allowed, or that the installation dimensions indicated in the assembly technical drawings were not respected, or that frictions exist on the door; in this case, the movements of the automatic door are not smooth and the opening/closing cycle may not be completed.

Safety on impact: check that when there is an obstacle to the motion of the leaf, it stops and reverses its motion.

To set up the available functions, refer to the paragraph “Functions setup”.
To adjust the variable parameters, refer to the paragraph “Potentiometers adjustment”.

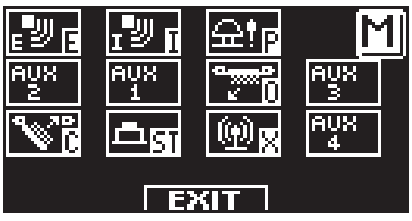
Setup operation must be repeated if one of the following conditions changes:
weight of the door, leaf opening angle, spring loading.
In this case, select the PARTIAL option from “SET-UP TYPE” to only perform the leaf run learning without changing the current settings.

16.5) INPUT DIAGNOSTICS

The selector ET-DSEL allows checking the inputs status to ensure proper operation of all devices connected with the automation Neptis Plus.
To enter “Input Diagnostics” while the automatic door operating program is shown on the display, press and hold the button **F2** for about 3 seconds.
The M letter appears at the top right of the display.

The display shows the symbols of all automation inputs.
If an input is engaged, the corresponding symbol lights up with an arrow nearby.

E	**External radar**
I	**Internal radar**
ST	**PS1 (start button)**
P	**OPEN**
C	**Closing safety sensor**
O	**Opening safety sensor**
AUX 1	**AUX 1 (activates if the manual program selector is in position I)**
AUX 2	**AUX 2 (activates if the manual program selector is in position II)**
AUX 3	**AUX 3**
RX	**EN/RF1 receiver when activated by a SPYCO radio control**
AUX 4	**not used**



17) PROGRAM SELECTORS

The program selector allows the user to select the operating mode of the door.
Depending on the preference, it is possible to use the manual selector incorporated in the side cap of the Neptis Plus automation, the mechanical key selector EV-MSEL, or the digital selector ET-DSEL.
Each program selector is fully described below.

17.1) MANUAL PROGRAM SELECTORS

The 3-position manual program selector is the basic solution provided on the automation.
The operation of this selector is enabled when the function F01 is OFF (preset as default).

Position **I** = Automatic bidirectional program
The door automatically opens after an opening command.

Position **0** = Manual free door
Automatic operation is disabled and the door can be opened manually.

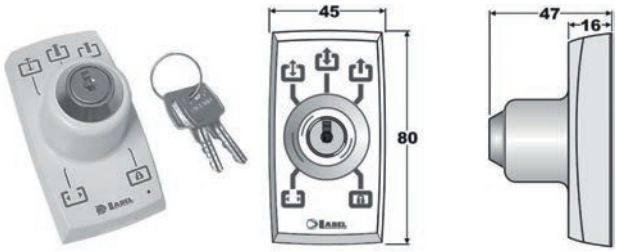
Position **II** = Night lock program
If the F06 function is set to **OFF** (default)
The door can only be opened by the OPEN input, by the start input or by radio control if the EN/RF1 radio receiver is installed.

Position **II** = Open door program
If the F06 function is set to **ON**
The door remains motionless in the position of complete opening.

17.2) MECHANICAL KEY SELECTOR EV-MSEL

The 5-position mechanical key selector can be used as an alternative to the manual selector, and its operation is enabled when the function F01 is OFF (default).

Disconnect the wires of the manual selector from the terminal box of the PWB control unit if the mechanical selector EV-MSEL is installed.



ELECTRIC CONNECTIONS

Terminal 1 of EV-MSEL= to terminal 9 (Internal radar) of the PWB of the Neptis Plus automation.
Terminal 2 of EV-MSEL= to terminal 3 (Common) of the PWB of the Neptis Plus automation.
Terminal 3 of EV-MSEL= to terminal 1 (AUX 1) of the PWB of the Neptis Plus automation.
Terminal 4 of EV-MSEL= to terminal 4 (AUX 2) of the PWB of the Neptis Plus automation.

For any check on proper connection and operation of the key mechanical selector, enter inputs diagnostics (see par. 16.5) to ensure that different key positions correspond to the activation of the following symbols:

	=	 **e** 
	=	**no active symbol**
	=	
	=	 **e** 
	=	

OPERATING MODE

Insert and turn the key of the selector EV-MSEL to select the desired program.

	**Open door program** The door stops in fully open position.
	**Manual free door** Automatic operation is disabled and the door can be opened manually.
	**Automatic bidirectional program** The door automatically opens after an opening command.
	**Automatic unidirectional exit only program** To disable entry detection on external Radar input.
	**Night lock program** The door can only be opened by the OPEN input, by the start input, or by radio control if the EN/RF1 radio receiver is installed.

The key can be taken out of the selector when in any position in order to prevent undesired changes to the work program.

17.3) DIGITAL SELECTOR ET-DSEL – USED AS PROGRAM SELECTOR

The digital selector ET-DSEL can be installed in the system and used by the user like a program selector, as an alternative to the manual and mechanical selector if you need a more comprehensive tool in terms of functions and graphics.

To enable ET-DSEL operation as program selector, set the F01 function to OFF (see paragraph “Functions setup”).

Pressing briefly the button SET, select the automatic door operating mode.
Whenever the button is pressed, you switch from a work program to the next.

The work programs which can be selected using the button are described below SET

Automatic bidirectional program
The door automatically opens after an opening command.

Automatic unidirectional exit only program
To disable entry detection on external Radar input.

Automatic unidirectional entry only program
To disable exit detection on internal Radar input.

Open door program
The door remains motionless in the position of complete opening.

Night lock program
The door can only be opened by the OPEN-START inputs or by radio control if the EN-RF1 radio receiver is installed.

Manual free door
Automatic operation is disabled and the door can be opened manually.

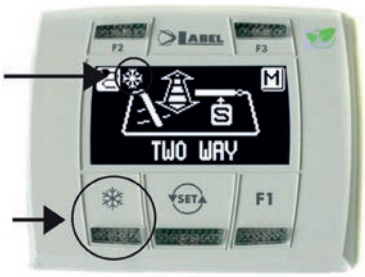
Power lamp display

The symbol indicates the presence of mains power voltage and the battery, if any, is operating.

- The symbol indicates the absence of mains power voltage. Automation operation is ensured by the emergency battery, if any, which is in working order.
- The symbol with mains power voltage indicates that the battery is damaged.

  In this case, the control unit buzzer emits a beep before each door opening for 10 cycles (if function F10 OFF), or the door opens and remains open (if function F10 ON).
- The symbol without mains power voltage indicates that the emergency battery is about to run out.

Operation of other buttons located on the panel of the program selector ET-DSEL



❄

Partial opening, is used only in a double leaf door automation
To activate the partial opening press briefly the button ❄;
The symbol ❄ on the display indicates that the function is on.

In a dual leaf door, only the first leaf (Master) opens if the opening command is given from the internal or external radar inputs.
Partial opening only operates in bi-directional, unidirectional, and open door automatic programs.
To disable partial opening, press again briefly the button ❄.
For details, refer to paragraph "Dual leaf swing door".

F2

- **Disabling the step-by-step operation (if F40 = ON)**
  Press the F2 button once to disable the step-by-step operation previously enabled by function F18 ON (see the paragraph "Function setting") and enable the automatic closing of the door. To enable step by step operation, press again the button F2, the symbol F2 turns off on the display.
- **Disabling the virtual spring function (if F40 = OFF), for NB-SMT and NB-SMTB springless automations**
  Press the button F2 to disable the virtual spring function activated by the potentiometer P22 (see POTENTIOMETER TABLE)
  Press again button F2 in order to activate the virtual spring function.
  The symbol F2 on the display disappears.

F1

Door opening command
Press the button F1 to open the door, but only in bi-directional and unidirectional programs (if function F32 OFF).
Press F1 to open the door in all operating programs, both automatic and night lock (if function F32 ON).

F3

It is used only in a MASTER / SLAVE double leaf door automation

In the main screen of the work program, the button F3 has no operating function. Its function is just to toggle from MASTER to SLAVE and ensure the proper communication between the automations and the selector ET-DSEL.

M is displayed on the top right of the display when you select the Master automation, while S is displayed when you select the Slave automation.

When the operation is correct, the work program of the door both in M and in S is displayed, otherwise in the event of communication fault, it is displayed "NO SIGNAL" related to the automation that is not working properly.

"SCHEDULED MAINTENANCE" message
The display shows the "SCHEDULED MAINTENANCE" message when the number of work cycles set by the P48 potentiometer is reached.

18) GENERAL PROGRAMMING MENU

To enter the general programming menu while the automatic door operating program is shown on the display, hold the button SET pressed for about 5 seconds.

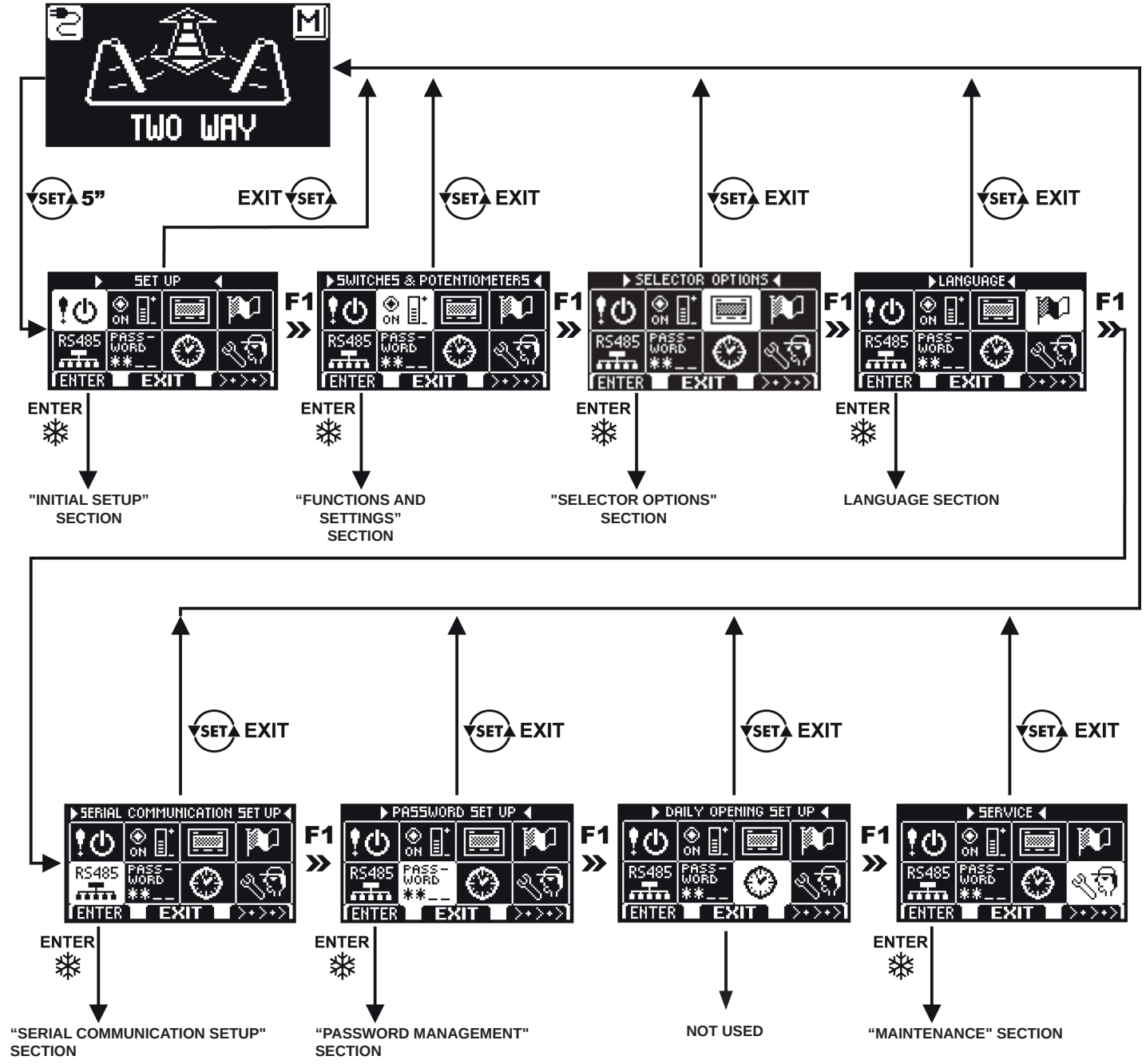
The programming menu includes several submenus organized by topic (Diagram 1).

Choose the section you wish to access by pressing the button F1 >> .
The selected menu icon is highlighted and the section title appears at the top of the display.

To enter the selected sub-menu, press briefly the ENTER button ❄.

To exit the general programming menu and return to the work program view, press the EXIT button SET.

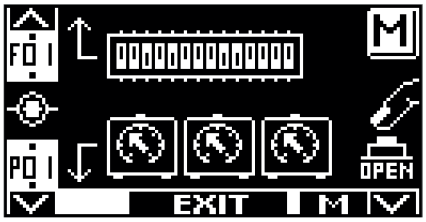
DIAGRAM 1



- **If you enter the initial setup section, see paragraph 16.3.**
- **If you enter the serial communication settings section, see paragraph 16.2 for single leaf door, or paragraph 26.2 for dual leaf swing door.**
- **For the other submenus, refer to the paragraph related to the section you entered**

19) FUNCTIONS AND SETTINGS

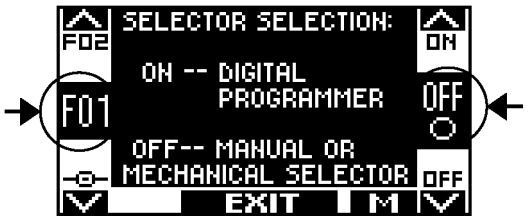
To enter, type the 10-character technical password (for more information, refer to the “Password management” paragraph)



The buttons in this sub-menu are used as follows:

F2 button = to access the functions F setting (see “Function setting” paragraph);
button ❄. = to access the P parameters setting (see the “Potentiometers adjustment” paragraph);
F1 button = control door opening;
F3 button = it is used only in case of dual leaf door to select whether you want to act on the functions and parameters of the Master or Slave automation; the letter M or S to the bottom right of the display indicates which automation has been selected.
In case of single leaf automation, on the top right of the display it is displayed the letter M.
SET button = to return to the general programming menu.

19.1) FUNCTIONS SETTING



In this section the display describes the purpose of the selected function;
the button F1 sets the function status to OFF;
the button F3 sets the function status to ON;
the button F2 allows to go to the next function;
the button ❄ allows returning to the previous function;

For information about the operation of each function, please refer to the "FUNCTION TABLE".

19.2) - POTENTIOMETER ADJUSTMENT

In this section the display describes the selected potentiometer type;
the button F1 decreases the set percentage value;
the button F3 increases the set percentage value;
the ❄ button allows you to go to the next potentiometer;
the F2 button allows you to return to the previous potentiometer.

For information about the operation of each potentiometer, please refer to the “POTENTIOMETER TABLE".

FUNCTION TABLE	
	[1] Function to be set in the menu "Initial Set-up" of the digital selector before door start.
	* Default setting of the function.
	" For dual leaf swing door. In the Slave column are marked with the letter S the functions that must be set separately on the Slave automation in case of dual leaf door. The other functions not marked with S are set only on the Master automation.

FUNCTION	STATE	EXPLANATION	"SLAVE
F01[1]	**OFF***	Selection of the work program switch: embedded manual selector or key mechanical selector EV-MSEL	
	ON	Selection of the work program selector: digital selector ET-DSEL or T-NFC.	
F02[1]	**OFF**	Electric lock output disabled.	**S**
	ON	Electric lock output enabled. The electric lock is enabled in all the work programs of the door.	
F03[1] Function enabled if F02 = ON	**OFF**	Pulse operation for electric lock or electric striker. Refer to the paragraph "Applications with electric lock"	**S**
	ON	Permanent operation for electromagnet. Refer to the paragraph "Applications with electric lock"	
F04	**OFF***	The electric lock output is enabled in all work programs.	**S**
	ON	The electric lock output is enabled only in the work program "night lock"	
F05 Function enabled if F03 = OFF	**OFF***	Electric lock release disabled in the work program "manual free door"	**S**
	ON	Electric lock release enabled on each closing in the work program " manual free door"	
F06 Function enabled if F01 = OFF	**OFF***	Operating mode of manual program selector in position II = selection of the work program "night lock"	
	ON	Operating mode of manual program selector in position II = selection of the work program "open door"	
F07[1]	**OFF***	Battery module not installed	**S**
	ON	Battery module NB-BAT installed	
F08	**OFF***	Operation with battery: in the absence of mains power supply, the door continues to operate normally	
	ON	Operation with battery: in the absence of mains power supply, the door opens and remains open in the automatic work programs	
F09	**OFF***	Operation without mains power supply with battery low: the door operates normally	
	ON	Operation without mains power supply with battery low: the door opens and stays open	
F10	**OFF***	Battery monitoring: if the battery is low or damaged, the control unit buzzer beeps before opening for 10 cycles	
	ON	Battery monitoring: if the battery is low or damaged, the door opens and stays open in automatic programs	
F11[1]	**OFF**	Closing safety sensor input disabled; when the safety sensor is not installed on the E.C. input	**S**
	ON	Closing safety sensor input enabled; closing safety sensor on E.C. input installed.	
F12[1]	**OFF**	Opening safety sensor input disabled; when the safety sensor is not installed on the E.O. input	**S**
	ON	Opening safety sensor input enabled; opening safety sensor on E.O. input installed	
F13[1] Function enabled if F11 = ON	**OFF**	Tests on closing safety sensor E.C. disabled; for sensors which are not pre-arranged for monitoring	**S**
	ON	Test on closing safety sensors E.C. enabled; for sensors pre-arranged for monitoring by the automation (cat.2/pl.c). For details, refer to the paragraph "Safety sensors".	

F14[1] Function enabled if F12 = ON	**OFF**	Tests on opening safety sensor E.O. disabled; for sensors which are not pre-arranged for monitoring	**S**
	ON	Test on opening safety sensors E.O. enabled; for sensors pre-arranged for monitoring by the automation (cat.2/pl.c). For details, refer to the paragraph "Safety sensors".	
F15[1] Function active if F13 or F14 = ON	**OFF**	Safety sensors test with LOW logic level. For details, refer to the paragraph "Safety sensors".	**S**
	ON	Safety sensors test with HIGH logic level. For details, refer to the paragraph "Safety sensors".	
F16	**OFF***	If the work program “Night Lock” is selected, the door remains closed and can only be opened by actuating the OPEN-START inputs, or the Spyco radio control with the radio EN-RF1 radio receiver.	
	ON	Selecting the work program “Night Lock”, the door opens and remains open 10” before reclosing to allow leaving the building.	
F17	**OFF***	Disabled function OFF	
	ON	Disabled function ON Refer to the paragraph “Courtesy operation for disabled” for details on the operating mode.	
F18	**OFF***	Operation with automatic closing	
	ON	Step-by-step function: an OPEN command opens the door; a second command is required to close back the door.	
F19 Function enabled if F18 = ON	**OFF***	In the step-by-step function, the door, when open, can be closed only with a closing command given by the OPEN-START input or by the Spyco radio control with the EN-RF1 radio receiver.	
	ON	In the step-by-step function, the door, when open, automatically closes if the closing command is not given within 30 seconds.	
F20	**OFF***	Standard operation on the internal and external radar inputs.	
	ON	Operation with separate opening and closing commands. The external radar input controls the opening, the internal radar input controls the closing, without automatic closing. The OPEN and START inputs operate in standard mode.	
F21[1]	**OFF**	OPEN input configuration: normally closed contact. When a device with N.C. contact is installed.	
	ON	OPEN input configuration: normally open contact. When not in use or if a device with N.O. contact is installed.	
F22	**OFF***	The OPEN input is disabled in the work program “Manual free door”.	
	ON	The OPEN input is enabled also in the work program “Manual free door”, to allow the automatic opening of the door.	
F23	**OFF***	Pause time with open door before constant automatic closing.	
	ON	Automatic increase of the pause time with door open if the door cannot close due to the high flow of people.	
F24	**OFF***	The pause time set by the potentiometer P4 is never reset.	
	ON	The pause time set by the potentiometer P4 is reset to the initial value if, with the door open, an opening command is given.	
F25 For NB-SMT/SMTB automations only	**OFF***	In case of power failure, when mains supply is restored, the door remains in the current position.	
	ON	In case of power failure, when mains supply is restored, the door slowly goes to closed position.	
F26	**OFF***	Interlock function disabled.	
	ON	Function of interlock between two doors enabled. A door may be opened only if the other one is closed. Please refer to the paragraph "Interlock system".	
F27 Function enabled if F26 = ON	**OFF***	In interlock function, door opening is delayed by 0.5” after the opening command. Please refer to the paragraph "Interlock system".	
	ON	In interlock function, door opening is immediate after the opening command. Please refer to the paragraph "Interlock system".	

F28 Function enabled if F26 = ON	**OFF***	In interlock function, the opening control on the closed door is not saved. Please refer to the paragraph "Interlock system".	
	ON	In interlock function, the opening command on the closed door is saved and the subsequent opening will take place as soon as the other door will be closed. Please refer to the paragraph "Interlock system".	
F29 Function enabled if F26 = ON	**OFF***	Standard operation of the electric lock in the interlock system.	
	ON	Electric lock disabled if the 2 doors are closed in the automatic programs. Refer to the paragraph “Interlock system → Interlock application with electric locks disabled with closed doors”.	
F30		Not used	
F31	**OFF***	The internal and external radars are not active during the closing movement in the work program “Night Lock”	
	ON	The internal and external radars are active during the closing movement in the “Night Lock” work program, therefore the door is re-opened.	
F32	**OFF***	The F1 button of the selector ET-DSEL or the button B of the selector T-NFC controls door opening in automatic programs only.	
	ON	The F1 button of the selector ET-DSEL or the button B of the selector T-NFC controls door opening in both automatic and NIGHT LOCK programs.	
F33[1]	**OFF**	Single leaf door (display only, for editing it is necessary to repeat the setup).	
	ON	Double leaf door (display only, for editing it is necessary to repeat the setup).	
F34[1]	**OFF**	Master automation in double-leaf door (display only, for editing it is necessary to repeat the setup).	
	ON	Slave automation in double-leaf door (display only, for editing it is necessary to repeat the setup).	
F35	**OFF***	For double-leaf door: after a power failure, during the first opening movement the leaves start at the same time.	
	ON	For double-leaf door: after a power failure, during the first opening movement the leaves start respecting the offset.	
F36m Multiple selection function	**Multiple selection function, allowing to set the position of the manual or mechanic program selector where the pedestrian opening function of only the master leaf in a dual-leaf door is enabled.**		
	A*	Pedestrian opening DISABLED.	
	B	Pedestrian opening in position “Manual free door”.	
	C	Pedestrian opening DISABLED.	
	D	Pedestrian opening in “Night Lock” position.	
F38[1] For NB-LET/SLT automations only	**OFF**	The closing manoeuvre is carried out with the sole power of the spring.	**S**
	ON	The closing manoeuvre is carried out with the activation of the motor as an aid to the spring (draughts or other unfavourable situations).	
F39		Not used	
F40	**OFF***	The F2 button of the digital selector ET-DSEL or T-NFC disables the virtual spring function set by the P22 potentiometer (for NB-SMT/SMTB automations only).	
	ON	The button F2 of the digital selector ET-DSEL or T-NFC disables the step by step function set by the potentiometer F18 = ON.	
F41m Multiple selection function	**Multiple selection function that allows to set the operating mode of the open collector output (terminal 29) and from the OUT2 output to terminals 22 - 23 - 24.** **WARNING! If the interlock function is selected → F26=ON the open collector output (terminal 29) operates as interlock signal and the OUT2 output to terminal M5 can be used to connect a T-LED signaling light.** **All the functions provided by F41m are automatically disabled.**		**S**
	A*	Door state signal. The output turns on when the door is moving, whereas it turns off when the door is closed.	
	B	Battery state. The activation of the output reports the status of damaged battery.	
	C	Maintenance signal. The output activates when the door reaches the number of cycles provided for by the maintenance plan set by the potentiometer P48.	
	D	The output is enabled in the automatic programs and is disabled in night lock.	
	E	Not used	
	F	Not used	
	G	Not used	
	H	Not used	

F44		Not used	
F45m		Not used	
F48		Not used	
F49	**OFF***	It enables the buzzer warning beep when the motor thrust power limit is reached (refer to the paragraph "Functional testing")	**S**
	ON	It disables the buzzer warning beep when the motor thrust power limit is reached.	
F50		Not used	
F51		Not used	
F52		Not used	
F53		Not used	
F54		Not used	
F55		Not used	
F56		Not used	
F57		Not used	
F58		Not used	
F59		Not used	
F60		Not used	
F61		Not used	
F62		Not used	
F63		Not used	
F64		Not used	
F65		Not used	
F66		Not used	
F67		Not used	
F68		Not used	
F69		Not used	
F70		Not used	
F71		Not used	
F72		Not used	
F73	**OFF***	Opening leaf braking stage start in advance with relation to the end of the manoeuvre.	**S**
	ON	Opening leaf braking stage start corresponding to the last degrees of the manoeuvre.	
F74		Not used	
F75		Not used	
F76		Not used	
F77	**OFF***	Privacy function disabled	
	ON	Privacy function enabled (refer to the paragraph "PRIVACY FUNCTION")	
F78 Function enabled if the function F77 = ON	**OFF***	for electromagnet not equipped with open/closed status sensor (factory setting). The Neptis Plus automation automatically detects the closed door status.	
	ON	*ONLY READ IF YOU INSTALLED AN ELECTROMAGNET EQUIPPED WITH AN OPEN/CLOSED STATUS SENSOR* (not supplied by Label) for electromagnet equipped with open/closed status sensor. Connect the N.O. output contact of the electromagnet built-in status sensor to the AUX1 input of the PWB control unit to detect the closed door status.	
F79 Function enabled if the function F77 = ON	**OFF**	The signaling light (D) is steadily green while the door is moving and waiting for the door lock command.	
	ON*	The signaling light (D) alternately switches between red and green; it flashes slowly while the door is moving, and fast when the door is waiting for the door lock command. When the door is closed the light is always steadily red.	
F80	**OFF***	Cyclic function OFF	
	ON	Cyclic function ON. It activates the continuous door opening and closing cycle; it is used only for operation tests or durability tests.	

POTENTIOMETERS TABLE

POTENTIOMETER	EXPLANATION	"SLAVE
P01	**Opening speed** Increasing the value increases the speed during the opening movement.	S
P02	**Closing speed** Increasing the value increases the speed during the closing movement.	**S**
P03	**Opening safety sensor disabling distance** When the wall is near the open door, by increasing the value, the degrees in the final stage of the opening run in which the activation of the safety sensor leads to the immediate switch of the opening speed to the approach speed are increased to prevent leaf stop due to wall detection.	**S**
P04	**Open door pause time in automatic work programs** Setting values range between 0 (closing immediately after opening) and 60 seconds. Door open time before automatic closing.	
P05 Potentiometer enabled if F17 = ON	**Pause time with open door in the disabled function** Setting values range between 0 (closing immediately after opening) and 60 seconds. Door open time before automatic closing when the opening command is given by the disabled, operating the button connected to the OPEN input or by the Label remote control.	
P06	**Holding tension with door closed** Increasing the value increases the thrust exerted by the leaf on the closing ledge.	**S**
P07	**Wind stop when the door is closed** At the default value 0%, the function is disabled. Increasing the value increases the intensity of the force contrasting the wind thrust to keep the leaf closed.	**S**
P08	**Push & go** At the default value 0%, the function is disabled. As soon as the door is pushed manually, an automatic opening cycle starts. Increasing the value increases the degrees of leaf motion required before starting the opening. Adjustment between 2° and 15°.	**S**
P09 Potentiometer enabled if F02 = ON and F03 = OFF	**Final push for electric lock engagement** Increasing the value increases the leaf speed in the last degrees of the closing movement to ease the engagement of the electric lock.	**S**
P10 Potentiometer enabled if F02 = ON	**Closing thrust to release the electric lock** At the default value 0%, the function is disabled. Increasing the value increases the power of the closing thrust before door opening to ease electric lock release.	**S**
P11 Potentiometer enabled if F02 = ON	**Opening start delay after electric lock activation.** At the default value 0%, the function is disabled. Increasing the value introduces a delay in leaf opening start with respect to electric lock activation (10" at 100%).	**S**
P12 Potentiometer enabled if F02 = ON, F03 = OFF, F05 = ON	**Electric lock excitation time when you select the program "manual free door"** At 100%, the electric lock is always powered.	**S**
P13	**Deceleration starting distance when opening** Increasing the value increases the degrees of the opening run starting from which the leaf proceeds at approach speed.	**S**
P14	**Deceleration starting distance when closing** Increasing the value increases the degrees of the closing run starting from which the leaf proceeds at approach speed.	**S**
P15	**Thrust power during closing** Increasing the value increases the thrust power of the motor during the closing movement.	**S**
P16	**Motor thrust time at the end of the closing** Increasing the value increases the time the motor keeps thrusting in the last degrees of the closing movement, to overcome possible frictions and ease the approach of the leaf to the closing ledge. At 100%, thrust time 1.5 seconds.	**S**
P17	**Thrust power at the end of the opening cycle** The value of this potentiometer must be increased in order to increase the motor thrust power if the door has difficulty opening in the last degrees.	S
P18	**Distance between the end of the leaf run and the final ledge during opening** Increasing the value reduces the opening degrees, decreasing the value increases the opening degrees with respect to the default value stored during the setup. The adjustment range is approximately 5°.	**S**

P19	**Push & close** If the stationary open door is pushed manually, an automatic closing cycle starts. Increasing the value increases the degrees of leaf motion required before starting the closing. Adjustment between 2° and 15°.	**S**
P20	**Wind stop when the door is open** Increasing the value increases the intensity of the force contrasting the wind thrust to keep the stationary leaf open.	S
P21	**Acceleration ramp when opening** Increasing the value increases door acceleration during the opening movement.	S
P22	• **Assisted manual opening (for NB-SLT/LET spring automations only)** Increasing the value increases the feeling of lightness of the leaf during manual opening. At the minimum value 0% the assisted function is disabled. • **Door closing virtual spring (for NB-SMT springless automations only)** Door new closing after a manual opening. At value = 00 the function is disabled and the door does not close again after a manual opening. Setting the value 01, the door closes with the minimum force. Increasing the value, the thrust force during closing increases.	**S**
P23	• **Spring aid when closing (only active with F38 = OFF) for NB-SLT/LET spring automations** Increasing the value increases the force of the thrust at the start of the closing manoeuvre, for situations in which the force of the spring is not sufficient to guarantee the start of the closing movement. • **Door closing virtual spring aid (for NB-SMT springless automations only)** Increasing the value, the starting force increases when the door must start its closing motion after manual push opening, for situations in which the start of the reclosing movement is difficult.	**S**
P24	**Distance from the final closing ledge where the door reopens if an obstacle is detected during the closing cycle** Increasing the value increases the degrees from the final closing ledge in which the closing movement stop is achieved without reversing the running direction in case of detection of an obstacle.	**S**
P25	**Intensity of door braking at the end of the opening after a manual push** Increasing the value increases the leaf braking.	**S**
P26	**Distance from the end of the run during opening, starting from which it is braked after a manual push** Increasing the value increases the distance from the final ledge in opening where the door is braked during the manual push.	**S**
P27	**Leaf braking intensity when the opening safety sensor trips** Increasing the value reduces the braking distance.	**S**
P28 Potentiometer enabled if the function F26 = ON	**Time after which the interlock between two automatic doors gets disabled if the open door doesn't close back** Please refer to the "Interlock system" paragraph. At the default value 0%, the function is disabled. Time after which the interlock is disabled automatically if the door that is open does not close due to the high flow of people. In this case, if the radar inside the second door is activated by the persons in the space between the two doors, the second door opens allowing the outflow of people. At 01% the interlock disabling time and the ensuing second door opening time will be 10 seconds. At 50% the interlock disabling time will be 60 seconds, at 100% the interlock disabling time will be 120 seconds.	
P29 For NB-SMT springless automations only	**Pause time before door reclosing in the virtual spring function after a manual opening** If the virtual spring function is enabled, this potentiometer adjusts the waiting time before door new closing after the door was opened with a manual push. Pause time adjustable from 1 to 6 seconds.	
P30	**Leaf delay during opening** For dual leaf door. Increasing the value increases the starting delay during opening of the Slave automation with respect to the Master automation, necessary in case of overlapping leaves. At the minimum value 0%, both leaves start together during opening.	

P31	**Leaf delay during closing** For dual leaf door. Increasing the value increases the starting delay during closing of the Master automation with respect to the Slave automation, necessary in case of overlapping leaves. At the minimum value 0%, both leaves start together during closing.	
P32	**Thrust power** Increasing the value will increase the thrust power of the motor.	**S**
P33 For NB-LET/SLT spring automations only	**Motor thrust distance at closing end (active only with F38 = OFF)** At the default value 0%, the function is disabled. Increasing the value increases the degrees from the end of the closing run in which the motor thrust is enabled to facilitate the completion of the closing manoeuvre, in critical situations caused, for example, by draughts. At 100% of the value the motor is enabled throughout the closing phase. The thrust power of the motor is regulated by the potentiometer P15.	
P34 Potentiometer enabled if function F77 = ON (see PRIVACY FUNCTION)	It allows to adjust the time within which the user can issue the lock command from the inside once the door has closed. If the value is "0", time is infinite, therefore the lock command can always be issued from the internal touch button. Values ranging between "1" and "100" will set a time ranging between 1 and 100 seconds (factory setting = 10 seconds). Once this time has expired, if the electromagnet is not locked, activating the touch button causes the door to open.	
P35 Potentiometer enabled if function F77 = ON (see PRIVACY FUNCTION)	It allows to set the time after which the electromagnet is automatically released after the door has been locked from the inside. If the value is "0" (factory setting), time is infinite, therefore the electromagnet remains locked until the user activates the inside button to leave. Values ranging between "1" and "100" will set a time ranging between 1 and 100 minutes. Once this time has expired the signalling light flashes, alternately switching between red and green, to warn the user that within 3 minutes the door will be unlocked.	
P36	Not used	
P37	Not used	
P38	Not used	
P39	Not used	
P40	Not used	
P41	Not used	
P42	Not used	
P43	**Slowdown ramp during opening** Increasing the value, leaf slowdown moves toward the last degrees of the opening cycle.	**S**
P44	**Intensity of the braking during opening** Increasing the value increases the leaf braking intensity during the opening cycle.	**S**
P45	**Intensity of the braking during closing** Increasing the value increases the leaf braking intensity during the closing cycle.	**S**
P46	Not used	
P47	Not used	
P48	**Scheduled maintenance** This potentiometer allows you to select the number of opening/closing cycles after which the message "SCHEDULED MAINTENANCE" appears on the display of the program selector. The maintenance signal can also be displayed on the open collector output (terminal 29) or on the OUT2 (terminal M5) of the electronic control unit if the operating mode C is selected in the function F41m. When set to OFF (default value), the scheduled maintenance message is never displayed. Select the number of cycles after which maintenance is to be reported according to door operation and to the usage conditions: 8K (8,000 cycles), 16K (16,000 cycles), 32K (32,000 cycles), 64K (64,000 cycles), 128K (128,000 cycles), 256K (256,000 cycles), 512K (512,000 cycles).	
P49	Not used	
P50	Not used	

20) LANGUAGE

- Use the buttons F2 and ❄ to move the arrow in correspondence with the language desired.
- Press the EXIT button SET to return to general programming menu.

21) PASSWORD MANAGEMENT

This section shows three types of password.

a) TECHNICAL PASSWORD (for technical personnel in charge of installation and maintenance)

It is the 10-character password of the installer who commissions the system.
Using the technical password is compulsory to prevent unauthorized persons from having access to general programming menu sections concerning parameters and functions setting, initial setup and maintenance area.
The default technical password is “A-A-A-A-A-A-A-A-A-A”.

WARNING!
It is recommended to change the default technical password and to be very careful not to forget it.

b) PRIMARY PASSWORD (for the system owner-user)

It is a 5-character password used by the user to prevent unauthorized persons from having access to the selector ET-DSEL and change the work program.
Using a primary password is optional and must be enabled by the system owner.
The default technical password is “A-A-A-A-A”.

WARNING!
When enabling the password, be very careful not to forget the access combination.

c) SERVICE PASSWORD (for user)

It is a 5-character password that the system owner may provide to persons authorized to use the selector ET-DSEL.
With the service password, it is only possible to change the work program of the automatic door.
The default service password is “A-A-A-A-A”.
To change the service password, it is necessary to log in using the primary password.

Use the ❄ button to move the selection arrow downwards, use the F2 button to move the arrow upwards.

21.1) HOW TO CHANGE THE TECHNICAL PASSWORD

- Select “TECHNICAL PASSWORD”
- Press OK (F1).

- Enter the default technical password “A-A-A-A-A-A-A-A-A-A” by pressing 10 times the button A.

- Enter the new technical password, selecting a combination of 10 characters from the letters A-B-C-D.

- You will be prompted to repeat the new password.
  Type the previous combination again.

From this moment on, when having access to general programming to enter initial setup, functions and adjustments, settings of serial communication and maintenance section, it is necessary to enter the newly saved password.
The password is not required afterwards, when you navigate sections without exiting the general programming menu.
If the password entered is wrong, the display shows "PASSWORD ERROR" and returns you to the general programming menu.

21.2) HOW TO CHANGE THE PRIMARY PASSWORD

- Select “PRIMARY PASSWORD”
- Press OK (F1).

- Enter the default primary password “A-A-A-A-A” pressing 5 times the button A.
  (If the primary password is not the default password, since it had already been changed before, enter the currently-used primary password).

- Enter the new primary password, selecting a combination of 5 characters from the letters A-B-C-D.

- You are prompted to repeat the new password, so enter again the previous combination.

- If the password entered is correct, the message “PASSWORD OK” is displayed for one second, then the system returns to the PASSWORD MANAGEMENT section. Press the EXIT (SET) button to return to the general programming menu
- If the password you entered does not match the previous one, the display shows PASSWORD ERROR, the system returns to the section PASSWORD MANAGEMENT and it is necessary to perform again the procedure.

21.3) HOW TO CHANGE THE SERVICE PASSWORD

- Select “SERVICE PASSWORD”
- Press OK (F1).

- Enter the primary password

- Enter the new service password, selecting a combination of 5 characters from the letters A-B-C-D.

- You are prompted to repeat the new password, so enter again the previous combination.

- If the password entered is correct, “PASSWORD OK” is displayed for one second and the system returns to the PASSWORD MANAGEMENT section.

Press the EXIT (SET) button to return to the general programming menu.
If the password you entered does not match the previous one, the display shows PASSWORD ERROR, the system returns to the section PASSWORD MANAGEMENT, and it is necessary to perform again the procedure.

21.4) ENABLING USER PASSWORD USAGE (PRIMARY AND SERVICE)

- Select “PASSWORD ON / OFF”
- Press OK (F1).

- Enter the primary password

- Press the ON ❄ button to enable the usage of user passwords and return to the menu PASSWORD MANAGEMENT.
  To return to the work program view, press the EXIT button (SET) twice.
- From this moment on, whenever the user wants to access the digital selector ET-DSEL to change the automatic door work program, the primary or service password must be entered.

When the user decides to enable password usage, it is recommended to change the combination of both primary and service password.

21.5) DISABLING USER PASSWORD USAGE

- From the PASSWORD MANAGEMENT section, select “PASSWORD ON / OFF”
- Press the button OK (F1)

- Enter the primary password

- Press the OFF button (F1) to disable user password usage. To return to the general programming menu, press the EXIT button twice (SET)
  Access to the digital selector ET-DSEL as program selector now is free.

22) SELECTOR OPTIONS

In the section "Selector Options" you can choose which work programs are displayed on the display of the digital selector, so that the end user can scroll through and select only those he wants to use.

“Bidirectional program”

The buttons in this submenu are used as follows:
The button * allows going to the next function.
The button F2 allows returning to the previous function.
The button F1 sets the function status to OFF.
The button F3 sets the function status to ON.

“Exit Only Program”

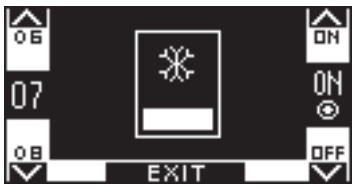
“Entry Only Program”

“Open Door Program”

“Night Lock Program”

“Manual Free Door Program”

“Pedestrian Opening For Dual Leaf Door”



“Button F2”

23) INFORMATION AND EVENT MEMORY

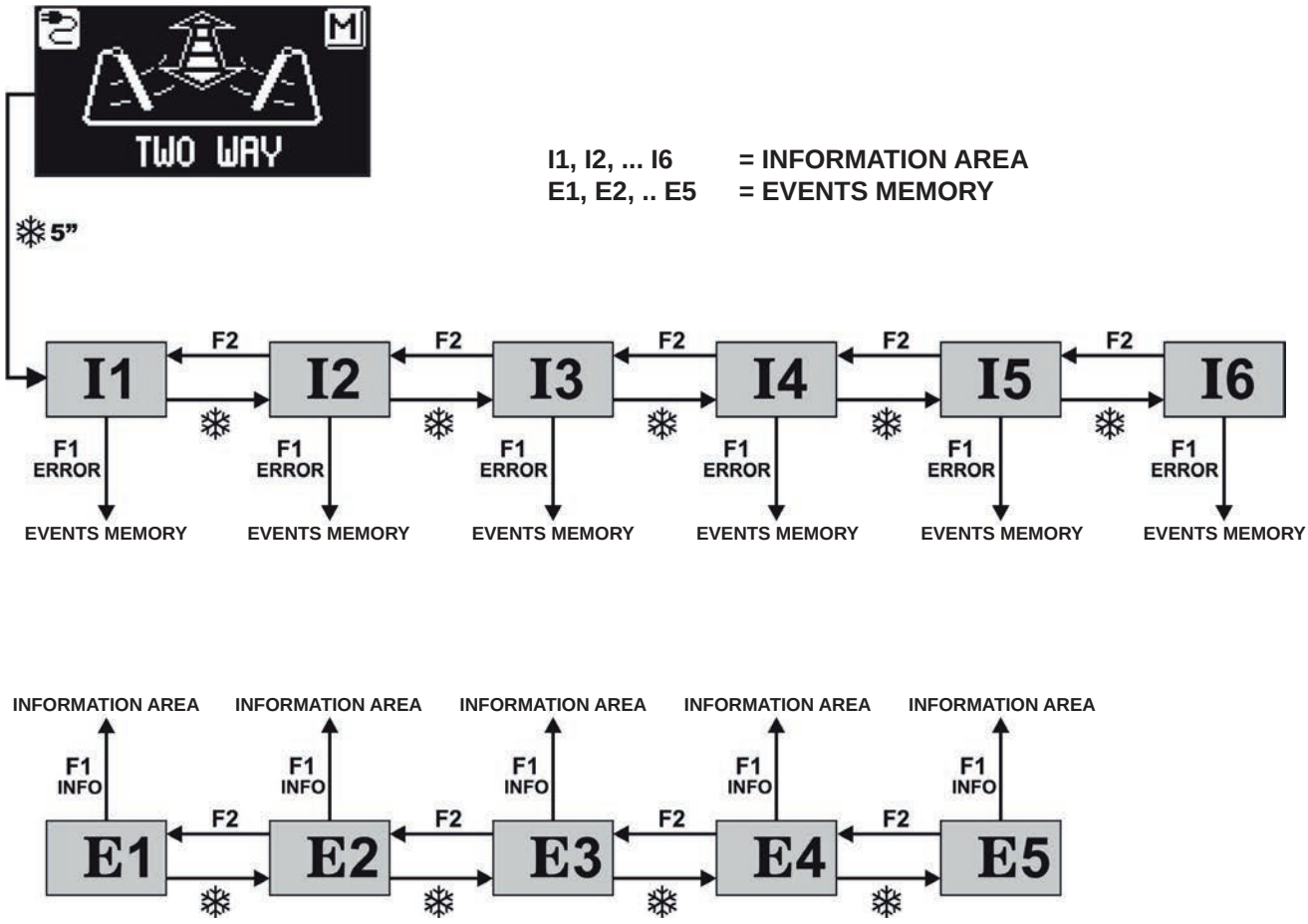
The digital selector ET-DSEL allows displaying information on automation and accessing events memory, where faults are saved.

After displaying the automatic door work program, press the button ❄ for 5” to enter the information area (Diagram 2).

The buttons inside the information area are used as follows

- The button v ❄ allows to go to the following information or event in events memory.
- The button ^ **F2** allows to go to the previous information or event in events memory.
- The button **F3** is used only in the case of dual leaf swing door and the symbol on the top right indicates **M** if you are viewing the information of the Master automation, or **S** if you are viewing the information of the Slave automation.
  Each pulse on the button F3 allows switching from **M** to **S** and vice versa.
  In case of single leaf automation, on the top right of the display it is displayed the letter **M**
- The button **F1** allows to go to the event memory, to display fault messages; press it again to return to the information area.
- The button EXIT (SET) allows returning to the main display of the work program of the door.

DIAGRAM 2



The purpose of the diagram is illustrating the path to be followed to view the information and the events memory; the texts included in the figures refer to the memory cells appearing on the left side of the display when viewing the information or the faults.

See the tables below for the list of information and fault messages.

INFORMATION AREA

NUMBER	INFORMATION	MEANING
I1	**Serial number**	Identifies the serial code of the LCB logic card
I2	**Partial counter**	Displays the opening/closing cycles of the door performed since the last maintenance. This counter must be reset by the maintainer for each servicing task (see paragraph "Maintenance").
I3	**Total cycles**	It displays the door opening/closing cycles which have been carried out since the first start-up of the automation.
I4	**Version of microcontroller A**	Displays the software release of the microcontroller A of the LCB logic card of the automation.
I5	**Version of microcontroller B**	Displays the software release of the microcontroller B of the logic card LCB of the automation.
I6	**Identification number**	Identification number including data for manufacturer use

The events memory stores the last 5 fault messages in chronological order.
When all the 5 memory cells include messages, the subsequent event will be saved in cell E1, the other events in the memory are shifted by one position and the event in cell E5 shall be deleted.
The events memory stores the messages, which are classified into warnings and faults.
Stored faults are signalled by displaying the symbol ⓘ directly from the main screen of the work program; access the events memory to show the relevant message.
Saved warnings are not reported in the main screen of the work program. They are just stored the event memory.

EVENTS MEMORY

Messages that may be displayed in cells E1 through E5

FAULT CODE	SYMBOL	MESSAGE ON THE DISPLAY	MEANING	PROBLEM RESOLUTION
01		OPENING OBSTACLE	The door has come into contact with an obstacle during opening; this caused the reversal of the motion direction.	If the problem persists, remove the obstacle or check for leaf correct sliding.
02		CLOSING OBSTACLE	The door has come into contact with an obstacle while closing; this caused the reversal of the motion direction.	If the problem persists, remove the obstacle or check for leaf correct sliding.
03		RESET 4 OBSTACLES IN CLOSING	If, during closing, the leaf strikes an obstacle in the same location for 4 times in a row, a reset occurs with subsequent opening at slow speed.	Remove the obstacle that prevents the full closing of the door.
33		CURRENT FAULT	Failed cyclic internal test of the current detection circuit.	The system resets automatically after a few seconds and carries out another testing attempt. If the problem persists, replace the control unit LCB.
35		INITIAL SETUP FAULT	The automation has not managed to complete the initial setup.	Check for leaf correct sliding and verify that there are no obstacles along the path it follows; also check that motor and encoder are connected, then repeat the setup attempt.
36		ENCODER OR MOTOR FAULT	Signals from the encoder are not detected.	It is necessary to turn off the 230V power supply, then turn it on again after a few seconds. Check that the motor is running, that the motor connector is properly plugged in and that the motor cables are not damaged.
37		SAFETY SENSOR FAULT DURING OPENING	Failed opening safety sensor test.	Check that the test settings and parameters are correct, that the test has been enabled also on the safety sensor and that the electrical connections between sensor and control unit are correct
39		SAFETY SENSOR FAULT DURING CLOSING	Failed closing safety sensor test.	Check that the test settings and parameters are correct, that the test has been enabled also on the safety sensor and that the electrical connections between sensor and control unit are correct.
42		BATTERY FAULT	The system signals a damage to the battery.	During the operation the battery is constantly monitored. Check that the battery and the battery charger board NB-BAT are working properly.
43		SLAVE GENERAL FAULT	Signalling of a defect on the Slave automation	Access the event memory of the Slave automation and check the type of fault displayed.
44		EEPROM REGISTERS FAULT	Failed internal memory register test.	It is necessary to turn off the 230V power supply, then turn it on again after a few seconds. If the problem persists, it is an LCB control unit fault.
45		MASTER-SLAVE COMMUNICATION FAULT	There is a fault in the communication between Master and Slave.	Check that the cable WR5MS is connected between the two automations and that the setting of the double swing door is correct.

24) MAINTENANCE

To enter, type the 10-character technical password (for more information, refer to the “Password management” paragraph).

This section is accessed only to reset any fault existing in the events memory and the partial counter of the door opening/closing cycles performed by the door and to reset the initial setup carried out during commissioning.
The event memory and partial counter reset must be performed by specialized personnel only during routine maintenance, after performing all system operation checks.

Never reset the setup (GENERAL RESET).
Only in case of a leaf stroke change, or if you need to reload the spring (because spring load has been lost during arm extraction because the spring reload lock procedures have not been carried out correctly), it is necessary to erase the setup and proceed with a new setup following the operations described in paragraph 16.3 (for single leaf door) or in paragraph 27.2 (for dual leaf door).

The buttons in this section are used as follows:

- The button v❄ allows moving forward in the reset type selection.
- The button ^ **F2** allows returning to the previous reset.
- The button **F1** (OK) allows confirming data reset for the selected reset type.
- The button **F3** is used only in case of dual leaf swing door and symbol on the top right on the display indicates **M** if the reset operations are related to the Master automation, or **S** if they are related to the Slave automation.
  Each pulse on the button **F3** allows switching from **M** to **S** and vice versa.
  In case of single leaf automation, on the top right of the display it is displayed the letter **M**.

The GENERAL RESET clears the setup.

24.1) PLUG AND PLAY

The "PLUG and PLAY" option allows to set the functions and the parameters of the automatic door directly at the factory, before shipping the automation to the installation site.
To adjust the functions and parameters, refer to the paragraph "FUNCTIONS AND ADJUSTMENTS".
“PLUG and PLAY” only works for single-leaf swing doors.
It cannot be used for dual-leaf doors.
After you have selected the desired functions, access the "MAINTENANCE" section of the digital selector ET-DSEL described in this paragraph, select with the arrow the option "PLUG and PLAY" and press the button F1 (OK).
The buzzer of the electronic control unit emits 5 beeps.

Turn off the power supply of the automation.

Once the automatic door is installed, in order to perform the initial setup, follow the procedure below:

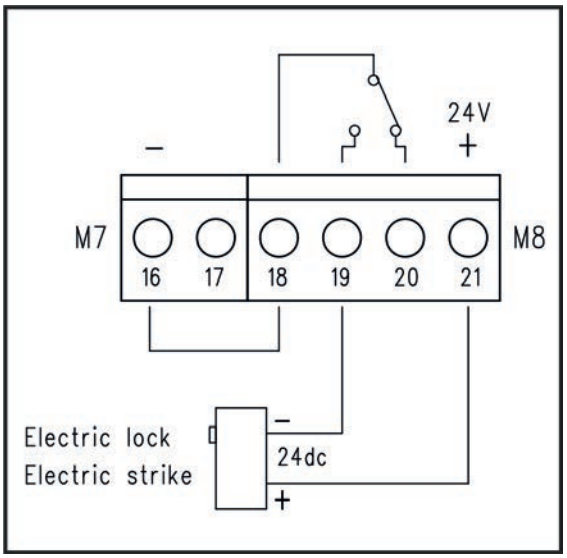
a) The first step to perform is the spring loading procedure described in the paragraph "**PREPARATION AND INSTALLATION OF THE AUTOMATION**".
b) **MOVE THE DOOR TO CLOSED POSITION.**
c) Power the automation NEPTIS PLUS with mains voltage, the control unit buzzer emits 5 beeps.
d) Select position "**I**" on the manual selector located on the side cap of the automation.
e) Press the button PS1 (START) on the electronic control unit to start the initial setup cycle, or alternatively, access the section "SETUP" of the general programming menu and select the option "PARTIAL" as setup mode.
f) During the setup cycle, the door moves slowly from closed position to fully open position, in order to learn the leaf run.
   At the end of the cycle a prolonged beep signals that the setup is over.
g) Now the door will operate according to the setup.

25) APPLICATIONS WITH ELECTRIC LOCK

To lock the door in closed position, the automation Neptis Plus is ready to control an electric strike, an electric lock or an electromagnet.

25.1) ELECTRIC LOCK / ELECTRIC STRIKE

Setup of the functions to enable the electric lock:



- **F02 = ON** to enable the electric lock.
- **F03 = OFF** to enable the pulse operation.
- **F05 = ON**
  If you want the automatic release of the electric lock when the door is closed, when you select the work program "Manual free door", to set the door to be opened manually.

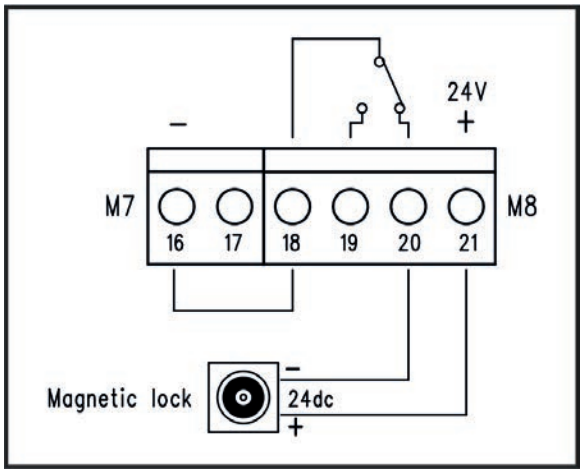
If the ET-DSEL selector is used as the program selector, you can activate the automatic release of the electric lock at the end of the closing cycle even in the automatic work cycles.
Press the F2 button of ET-DSEL to enable the function (the F2 symbol lights up on the display).
Press the F2 button of ET-DSEL again to disable the function (the F2 symbol goes off on the display).

Setting of electric door management parameters

- **P09**
  Adjusts the leaf speed in the last degrees of the closing movement to ease the engagement of the electric lock.
- **P10**
  Power of the closing thrust before door opening to ease electric lock release. At value 0%, the function is disabled, from 01 to 100% the power of the thrust increases proportionally.
- **P11**
  introduces a delay in leaf opening start with respect to electric lock activation. At value 0%, the function is disabled, from 01 to 100% the delay increases proportionally up to 10 seconds.

25.2) ELECTROMAGNET

Setup of the functions to enable the electromagnet:



- **F02 = ON** to enable the electric lock output.
- **F03 = ON** to enable permanent operation, which supplies the electromagnet with door closed.
- **F04 = OFF** the electromagnet is enabled when the door is closed in all work programs
- **F04 = ON** the electromagnet is enabled when the door is closed only in the "Night Lock" work program.

In the work program "Manual free door" the electromagnet is not powered with the door closed to be able to move the leaf manually.

Enabling the "Push & Go" function (P08 potentiometer), the electromagnet is not powered with the door closed in the automatic work programs to be able to operate push opening. It is enabled only in the "Night lock" program.

26) DUAL LEAF DOOR

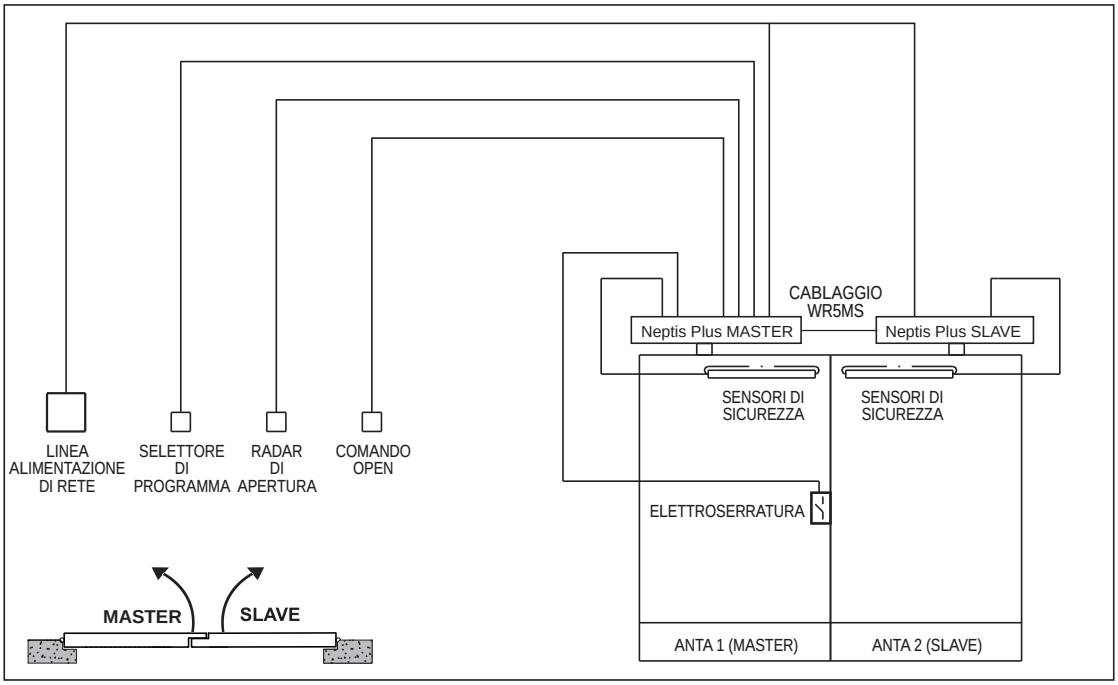
Two automations are required to control the operation of a dual leaf swing door, one which must be setup as Master and the other that must be setup as Slave.
In the case of overlapping leaves, setup as Master the automation applied to the first leaf which opens.

In case of swing door with two leaves overlapping when closed and installed on emergency exits, the person in charge of commissioning shall measure the force necessary to open both leaves of the door pushing manually the Slave leaf in the direction of the escape (most unfavourable condition).
The force necessary to open manually the door must not exceed 150N and must be measured at the main edge, at a right angle with respect to the leaf, at an height of 1000 ± 10mm.
If the force measured is higher than the limit of 150N, apply the symbol for emergency breakout only on the main leaf (Master) of the door.

26.1) DUAL LEAF ELECTRIC SETUP

Make the electrical connections to the automations (see paragraph "Electrical connections"), considering that the door opening control actuators, the program selector, and the electric lock must be connected to the Master automation.
The safety sensors installed on the master leaf must be connected to the Master automation, the safety sensors installed on the slave leaf must be connected to the Slave automation.
If the door is equipped with dual electric lock to lock individually each leaf, connect to the Slave automation the electric lock which locks the Slave leaf.

The Master and Slave automations must be connected via the wiring "WR5MS", whose terminals must be inserted into the connector J7 of the logic cards LCB of the automations.
Connect to the Master automation the digital selector EV-DSEL or T-NFC.



26.2) DUAL LEAF DOOR COMMISSIONING

After having completed the mechanical installation and performed the electric connections, check manually that the motion of both leaves is without friction for the entire run.

Before powering the system set the SW1 dip-switch of the LCB logic card as specified in the table

	SW1 DIP 1	SW1 DIP 2
LCB MASTER AUTOMATION	**OFF**	**OFF**
LCB SLAVE AUTOMATION	**ON**	**OFF**

Follow the steps described below to complete the commissioning of the automation.

1. Power on the automations with mains voltage
2. If the digital selector ET-DSEL is new and is powered for the first time, it is necessary to select a language as shown in paragraph 16.1, then you will automatically enter the section "Serial communication settings".
3. **SERIAL COMMUNICATION SETTINGS**
   The selector ET-DSEL detects the presence of the two automations in the system (fig.A) and automatically stores the serial code of the logic cards LCB (fig.B).
   At the end of the acquisition of both serial codes of the logic cards LCB, the display shows the symbol with a closed padlock on the icons of the letters M and S (fig.C) and the selector ET-DSEL will be able to manage both Master and Slave automations.

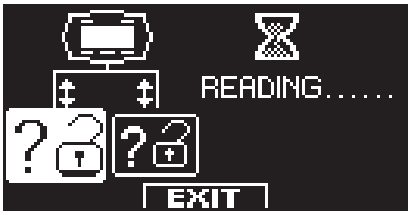


fig. A

fig. B

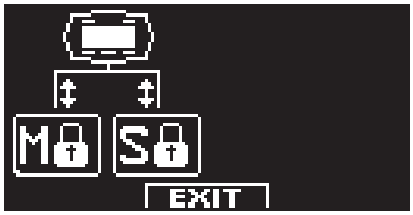


fig. C

Press the button EXIT (SET) to exit the section “Serial communication settings” and return to the general programming menu.

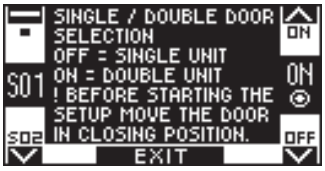
4. **INITIAL SETUP**
   From the main programming menu, enter the section "INITIAL SETUP" (as indicated in paragraph 18).
   Enter the 10 character technical password to access setup; (for information about the use of the technical password, refer to the paragraph "Password management" 21 and 21.1).

BEFORE STARTING THE SETUP, MOVE THE DOOR TO CLOSED POSITION.

FULL SETUP	mandatory for the first installation of the automation.
PARTIAL SETUP	to repeat leaf run learning if the mechanical limit stops are moved, without modifying the functions previously set.
WARNING!	Partial setup does not work on a new automation on first installation. In this case, if it the Partial option is selected, the buzzer of the electronic control unit will report the fault emitting a continuous sound for 4 seconds. Press the button F1 to select the “FULL” setup.

In this section, the buttons F1 / F3 allow selecting the function OFF/ON status, while the button ❄ allows moving to the following function.
Press the button F2 to return to the previous function.

- Select the function S01 ON = dual leaf door.



Select ON if there is an electric lock.
If the door is not equipped with an electric lock, keep OFF.

Only if the function S02 was set to ON
If there is an electric lock, select its type:
Pulse OFF (electric lock or electric strike) or permanent ON (electromagnet).

BATTERY PACK
OFF = NOT PRESENT
ON = USED

Select ON only if a closing safety sensor has been installed on the E.C. input. (terminals 2 - 3).
The selection of this function is valid for both master and slave automations.

Select ON only if an opening safety sensor has been installed on E.O. input. (terminals 5 - 7).
The selection of this function is valid for both master and slave automations.

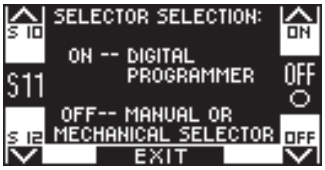
Only if function S05 was set to ON.
Select ON if a monitored closing safety sensor was installed (as provided for by the standard EN 16005) in order to activate the sensor test at the beginning of each cycle.
Only select OFF if the safety closing sensor has not been setup to be monitored.
For details, refer to the paragraph "Safety sensors".

Only if the function S06 was set to ON
Select ON if a monitored opening safety sensor was installed (as provided for by the standard EN 16005) in order to activate the sensor test at the beginning of each cycle.
Only select OFF if the safety opening sensor has not been setup to be monitored.
For details, refer to the paragraph "Safety sensors".

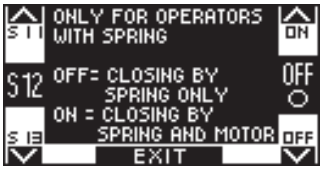
Only if the functions S07 and/or S08 are set to ON.
Selects the logic state of the test, used by the automation control unit to monitor the safety sensors.
The setup depends on the characteristics of the sensor installed.
Select OFF when using "OA-EDGE T" or "FLAT SCAN" sensors;

Contact configuration on OPEN input between terminals 6 - 7 of LCB board.
Select ON with a normally open contact or when the OPEN input is not used.
Select OFF when you use a device with a normally closed contact.

Choice of the work program selector.
OFF: Manual selector or mechanical selector EV-MSEL.
ON: Digital selector ET-DSEL or T-NFC.



Select whether the door should only be closed by spring force (OFF), or if the motor (ON) must also be enabled to provide greater reclosing force.



Function NOT used.

- The automations are ready for the setup cycle.
  Press the button ❄ (OK) to start the setup cycle.

5. SETUP CYCLE

- The Master automation, after the 4 initial beeps, starts the opening cycle at low speed. At the end of the opening a 3" long beep signals that the run of the Master automation has been saved. The Master leaf remains open.
- The Slave automation, after the quick beeps before the start, starts the opening cycle at low speed. At the end of the opening a 3" long beep signals that the run of the Slave automation has been saved.
- The setup is over and the closing cycle occurs automatically, including at first the closing of the Slave leaf and after the closing leaf delay, the new closing of the Master leaf.

26.3) FUNCTIONAL TESTING

Select the automatic operation of the door using the program selector.

If you use the program manual selector, set it to I.

Refer to the “Program selectors” paragraph describing the types of selector provided for to select the automatic door operating mode.

To start an opening movement, press briefly the button PS1 (Start) on the control unit LCB of the Master automation, or operate the door opening devices.

Check the correct execution of the door opening and closing cycle

During the opening cycle, the Slave leaf starts with a preset delay with respect to the Master leaf, while in the closing cycle the Master leaf starts with a preset delay with respect to the Slave leaf.

The delay between the leaves at start is fundamental to avoid a possible crossing during the run, risking to overlap; if you want to change the preset leaf delay, enter the section “Functions and adjustments” and use the P30 potentiometer to adjust leaf delay during opening and the P31 potentiometer to adjust leaf delay during closing (see paragraph 19.2 “Potentiometers adjustment”).

Ensure that thrust organs and safety sensors operate; to adjust sensor detection field, refer to the instructions provided with the sensor.

The detection of the safety sensor during opening stops the motion only of the leaf on which it is installed.

The detection of the safety sensor during closing reverses the opening motion on both leaves.

Safety on impact: check that when there is an obstacle to the motion of a leaf, both leaves stop and reverse their motion.

After having powered the system, the first opening cycle occurs at slow speed and you can choose with the function F35 if both leaves must start together, or one after the other, respecting the leaf delay.

F35 OFF = In the first opening cycle the leaves start together.

F35 ON = In the first opening cycle the leaves start one after the other, respecting the leaf delay.

To set up the available functions, refer to “Functions setup” paragraph.

To adjust the variable parameters, refer to the paragraph “Potentiometers adjustment”.

Setup operation must be repeated if one of the following conditions changes:

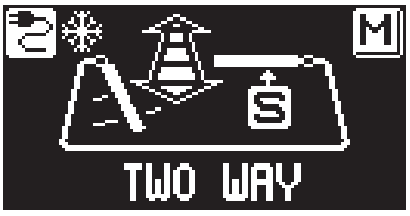
weight of the door, leaf opening angle, replacement of the logic card LCB.

In this case, select the PARTIAL option from “SETUP TYPE” to only perform the leaf run learning without changing the current settings.

26.4) PARTIAL OPENING

From the automatic door work program, it is possible to select the partial opening option, used to open only the Master leaf.

- If the automation is equipped with the digital selector ET-DSEL or T-NFC (F01 = ON), press the button ❄ to enable partial opening.



- If the automation is equipped with the manual selector or the mechanical key selector EV-MSEL (F01 = OFF), to enable partial opening it is necessary to set the function **F36m**.
  Then you should select in which position of the selector the partial opening must be enabled:

  F36 = B: partial opening in position 0 in the manual program selector;
  partial opening in position ⍐ in the mechanical selector EV-MSEL.

  F36 = D: partial opening in position II in the manual program selector;
  partial opening in position 🔒 in the mechanical selector EV-MSEL.

PARTIAL OPENING OPERATION

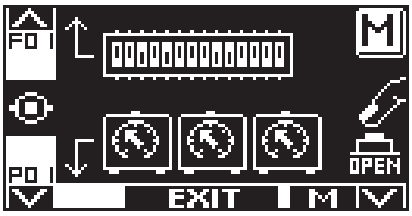
The opening commands, given via the internal and external radar inputs and with push & go, actuate the partial opening of the door, therefore only the Master leaf.

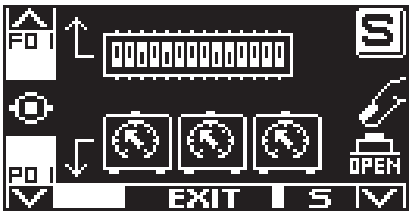
The opening commands given via the OPEN and START inputs cause both leaves to fully open.

26.5) CONSIDERATIONS ABOUT THE USE OF THE SELECTOR ET-DSEL OF THE TWO-LEAF DOOR

With the digital selector ET-DSEL you can operate separately the Master and Slave automations regarding the following sections of the general programming menu and of the information area.

a) FUNCTIONS AND ADJUSTMENTS





button F3 toggles from Master to Slave

Master automation **Slave automation**

b) MAINTENANCE

button F3 toggles from Master to Slave

Master automation **Slave automation**

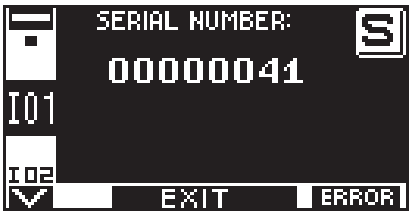
If the display shows the letter M, the operations carried out on the selector ET-DSEL apply to the Master automation, if it shows the letter S they apply to the Slave automation.

c) INFORMATION AREA AND EVENTS MEMORY

Also the information and the events memory of the Master and Slave automations are displayed separately.

Once you have entered the information area as described in paragraph 23, pressing the button F3 you select the automation whose information and events you want to display.

On the top right of the display appears the letter M if the information is related to the Master operation, the letter S if it is related to the Slave automation.



button F3 toggles from Master to Slave

Master automation **Slave automation**

In a swing door with two leaves, reset the events memory on the SLAVE (S) automation and then on the MASTER (M) automation. To reset the events memory, select "RESET FAULTS" and confirm with "OK".

26.6) MASTER / SLAVE INPUTS DIAGNOSTICS

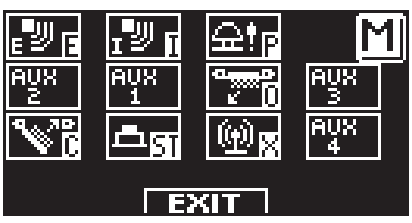
The selector ET-DSEL allows checking the inputs status to ensure proper operation of all devices connected with the automation Neptis Plus.

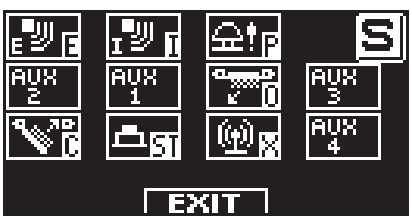
To enter "Input Diagnostics" while the automatic door operating program is shown on the display, keep the F2 button pressed for about 3 seconds. The letter M displayed on the top right means that you are viewing the inputs of the master. The display shows the symbols of all automation inputs.

If an input is used, the corresponding symbol lights up with an arrow nearby.

The button F3 is used to switch from the display of the master (M) inputs to the display of the slave (S) inputs,

Each pulse on the button F3 allows switching from M to S and vice versa.





27) EN-RF1 RADIO RECEIVER

1 - GENERAL INFORMATION

The single-channel receiver EN-RF1 is a 433.92 MHz radio receiver designed to open the automatic door NEPTIS PLUS using the transmitters manufactured by Label.
In Table 1 there is a list of radio transmitters produced by LABELSpa.

2 - DESIGNED USE

The receiver EN-RF1 must be coupled to the connector J12 of the logic card LCB and it is intended to control the opening of the automatic door in all the work programs of the automation.
WARNING:
The opening command of the automatic door is issued by the radio control, but movement protection and safety are delegated to organs other than the receiver.
It shall never be used in any case where the door activation or deactivation may cause injuries and damage. Receiver in class 3 according to the standards ETSI EN 300-220-2 V.3.1.1 (2016-11).

3 - INSTALLATION OF THE RECEIVER

Plug the EN-RF1 receiver (fig. 1) into the J12 connector of the LCB logic card of the automation (fig. 2). Proceed with saving the radio-controls (fig.3) as follows:

a) Enter the programming mode of the transmitters pressing and holding the button SW1 until the LED L1 is steadily lit (approx. 3 seconds).
b) Press the button of the transmitter to be saved. Successful saving will be indicated by 5 fast flashings of the LED L1 .
c) Then LED L1 will turn on steadily again and it will be possible to save another transmitter by repeating the operation described in point b), and so forth for all the transmitters to be used.
   • A maximum of 250 transmitters can be saved on the receiver.
d) Once the transmitter saving procedure is finished, exit the programming mode by pressing and holding the button SW1 until the LED L1 (○) turns off.

4 - USE OF THE RADIO CONTROL

By pressing the button of a saved transmitter, the automatic door opens and the LED L1 of the receiver remains on until the button of the transmitter is released.
The radio control opens the door in all the operating programs of the automation.

5 - RECEIVER MEMORY ERASURE

Should it be necessary to erase all the transmitter codes saved in the memory of the receiver EN-RF1, proceed as follows:
a) Extract the EN-RF1 receiver from the J12 connector of the LCB logic card.
b) Hold the receiver SW1 button pressed and simultaneously insert the EN-RF1 receiver into the J12 connector of the LCB logic card.
c) Release the button SW1 from the receiver EN-RF1 only after the LED L1 of the receiver starts flashing.
   Now the LED L1 of EN-RF1 blinks fast to indicate that the receiver is ready to save the codes of all the transmitters of the LABEL range, both rolling code models and dip switch models.
   If you only wish to save the rolling code transmitters (SPYCO model), excluding all dip switch models, briefly push the SW1 button; the LED L1 blinks slowly to indicate that the receiver is ready to save only the SPYCO transmitter codes.
   To switch from one mode to the other, press the button SW1.
d) After selecting the desired mode, press and hold the button SW1 for about 3 seconds until the LED L1 begins blinking very fast for about 8 seconds, signalling that the receiver memory is being erased.
e) When the memory of the receiver EN-RF1 has been erased, the LED L1 will turn off.
f) Now it is possible to save again the code of the transmitters to be used, following the procedure described in paragraph 3.

6 - TECHNICAL SPECIFICATIONS

Power supply	12Vdc
Power draw	10mA at rest - 50mA in operation
Outputs	OPEN COLLECTOR
Frequency	433.92 Mhz
Memory Capacity	250 users
Range without obstacles	30 meters
Operating temperature	-20° / +55°
Receiver class (ETSI EN 300-220-1 Chapter 4.1.1)	Class 3

7 - DECLARATIONS

Marketing, sale and use are valid without restrictions in all EU countries.
With this document Label SpA declares that the receiver EN-RF1 complies with all the essential requirements and with all other relevant provisions established by the directive RED 2014/53/EC.
The declaration of conformity is annexed to the instructions of the receiver EN-RF1.

TABLE 1
Label transmitters

ROLLING CODE	DIP-SWITCH	
SPYCO/1E SPYCO/3E	MDW/1E MDW/2E	TYKO/1E TYKO/2E

LED MEANING

	LED OFF
	LED ON
	LED BLINKING SLOWLY memory full or transmitter already saved
	LED BLINKING FAST transmitter saving
	LED BLINKING VERY FAST memory erasure

FIG.3

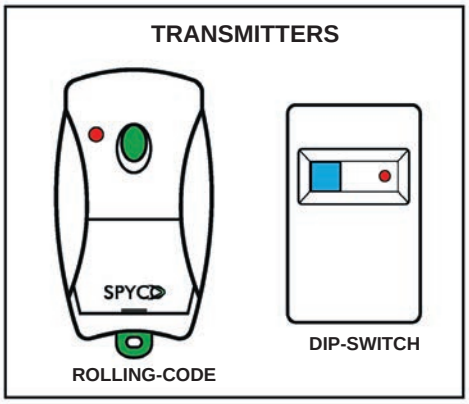


FIG.1

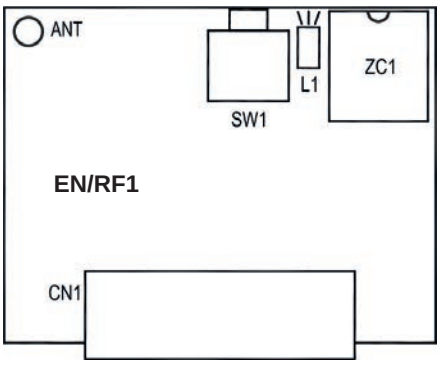
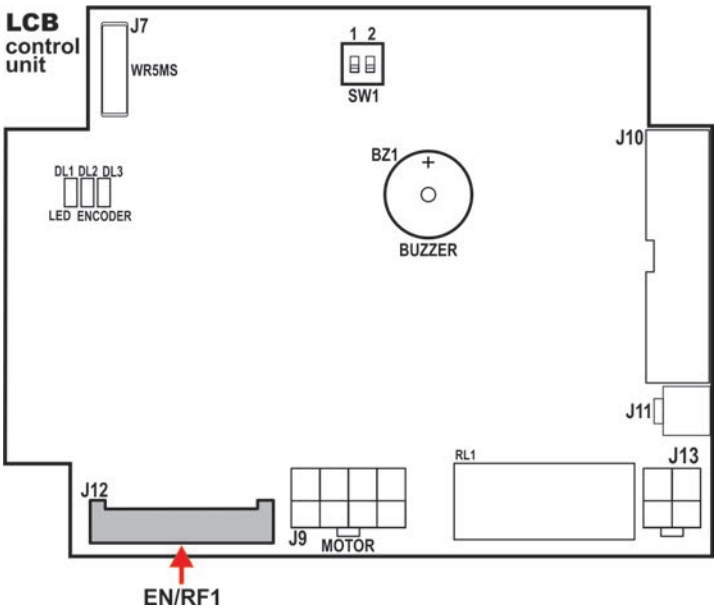


FIG.2



28) COURTESY MODE FOR DISABLED

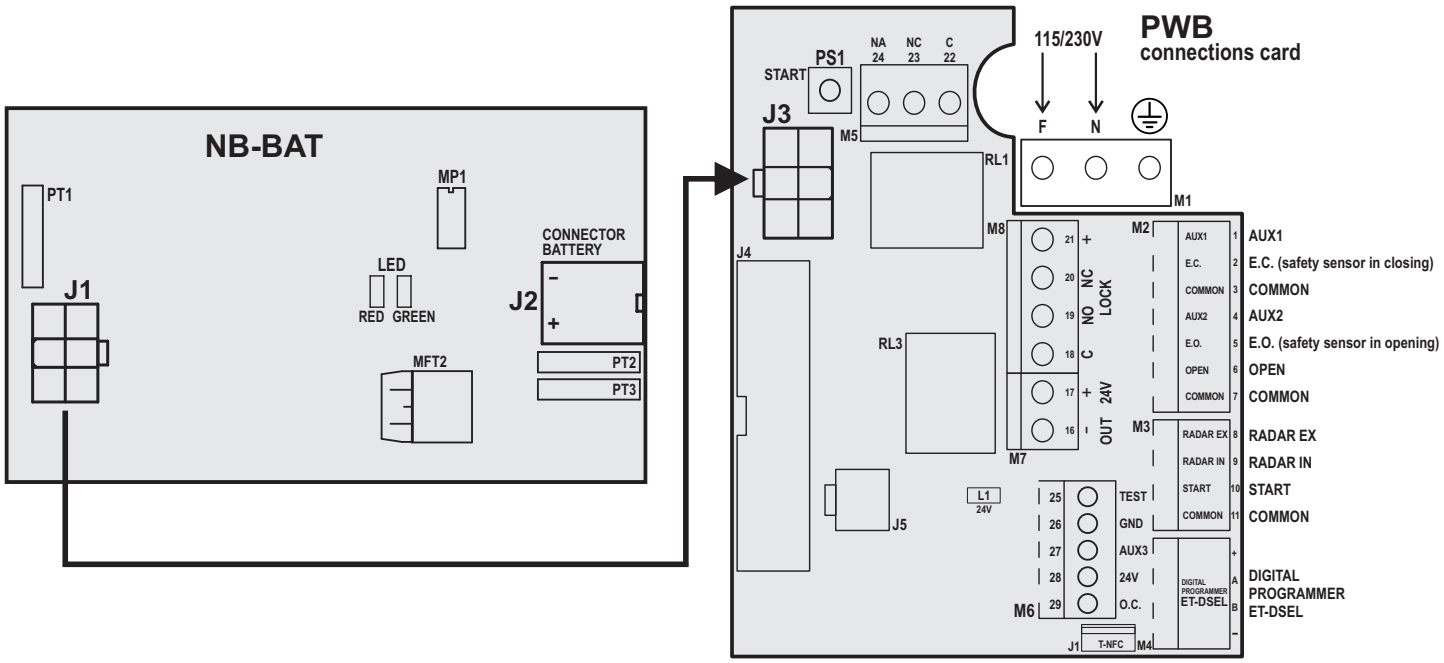
To enable courtesy mode for disabled, set the function **F17 = ON** on the digital selector.

- The appropriate opening button for disabled persons must be connected to the OPEN input of the automation.
  The disabled can also use the SPYCO radio control paired with the radio receiver EN-RF1.
- Set the pause time (P05 potentiometer) so as to keep the door open for a sufficient time to allow the disabled to cross the door before automatic closing.
- If, at the end of the opening manoeuvre or during the pause time, the closing safety sensor detects the presence of the disabled person as he/she crosses the door, the pause time is reduced to 3 seconds (even if it is calibrated for a longer time) after which the door closes.
- The door closes immediately without considering the pause time if the opening has been requested by the external radar or internal radar inputs, or by a manual push if the push & go function is enabled.

29) NB-BAT BATTERY MODULE

Electric connection

Connect the J1 connector of the NB-BAT module to the J3 connector of the PWB power supply unit through the special cables.
The battery cable must be connected to the J2 connector of the NB-BAT module.



Operation

The NB-BAT module trips in case of mains power failure, allowing the Neptis Plus automation to keep running.
Battery life depends on various factors, on the number of manoeuvres carried out, on the weight of the leaf, on the external devices connected, etc.
As a rough guide, the charged battery can supply power for about 50 consecutive door opening/closing cycles, or for about two hours with the door stopped.

IMPORTANT!

BATTERY TYPE: 3x6V (18V) - 1,3Ah

LED SIGNALLING

SIGNALLED EVENTS	GREEN LED	RED LED
BATTERY DISCONNECTED	ON	ON
BATTERY CHARGING	BLINKING	OFF
BATTERY CHARGED WITH MAINS VOLTAGE	ON	OFF
BATTERY LOW	OFF	BLINKING
BATTERY CHARGED WITHOUT MAINS VOLTAGE	OFF	ON

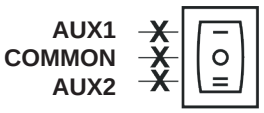
WARNING!

- Periodically check battery efficiency
- To allow recharging, the batteries must always be connected to the electronic control unit
- The equipment must be disconnected from the mains when removing the batteries
- In case of replacement, always use genuine batteries
- Replacement must be performed by qualified personnel
- Remove batteries from the equipment before their disposal
- Batteries contain polluting substances; therefore they must be disposed of in accordance with the provisions of local regulations

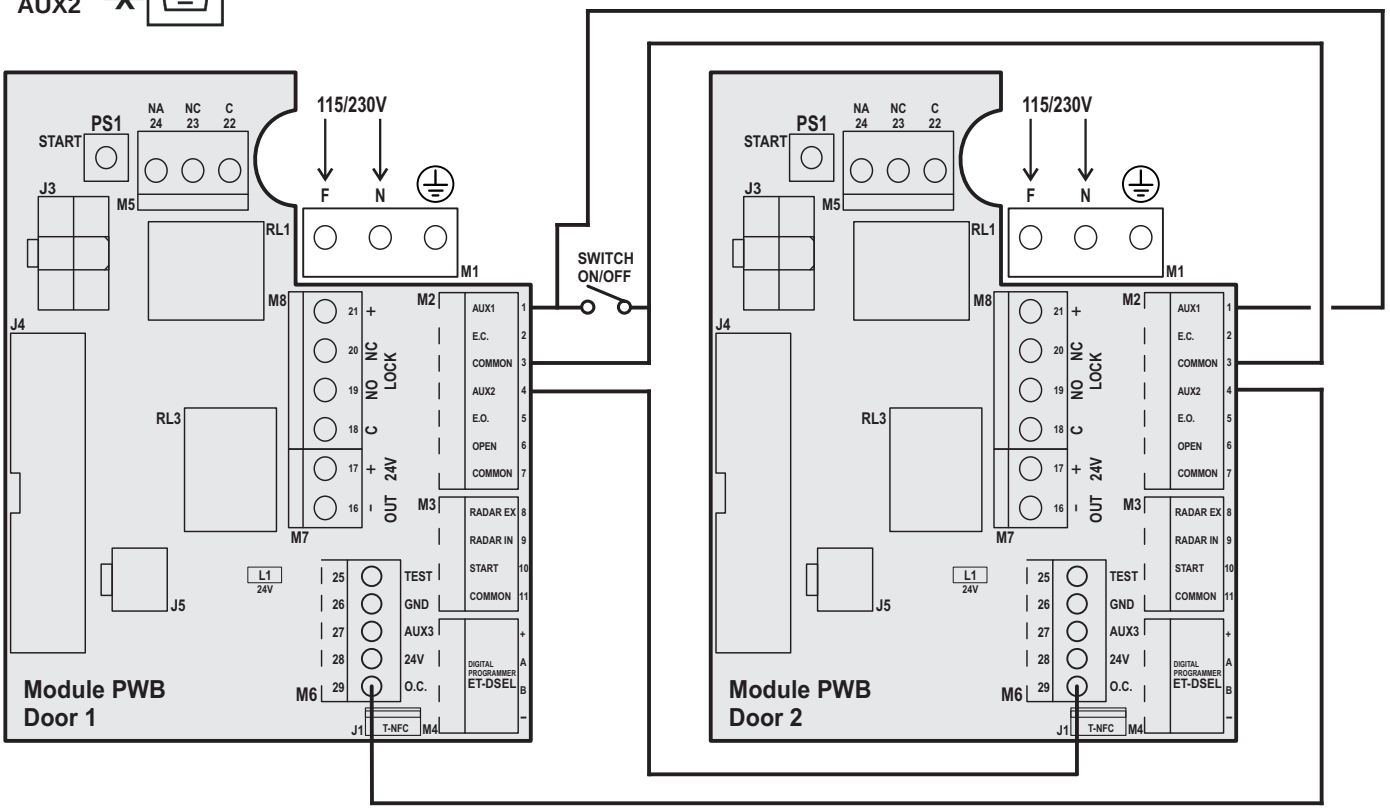
30) INTERLOCK SYSTEM

The interlock system is used to connect two automatic doors when a door can open only if the other one is closed.

30.1) ELECTRICAL CONNECTION FOR INTERLOCK



X= Disconnect the manual selector from the terminals AUX1, COMMON, AUX2



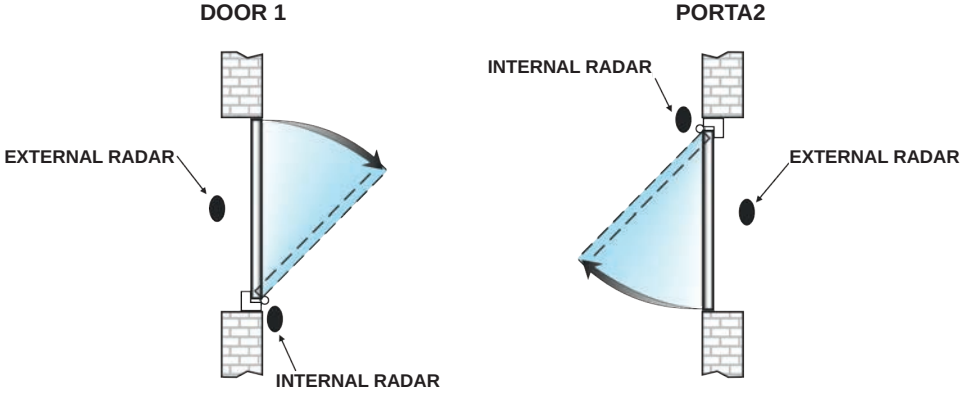
The figure shows the diagram of the electrical connections between the automations of the two doors ensuring that they are interlocked during operation.

- The terminal 29 of the control unit of the door 1 must be connected to terminal 4 (AUX2) of the door 2.
- The terminal 29 of the control unit of the door 2 must be connected to terminal 4 (AUX2) of the door 1.
- The terminals 3 (Common) of each control unit must be connected together.
- If you wish to by-pass the interlock operation and allow the two doors to operate independently, you need to connect an ON / OFF switch in parallel between terminals 1 (AUX1) and 3 (Common) of both control units of the automations. This way when the switch contact is open the interlock is enabled, while when the switch contact is closed the interlock is disabled and the two automatic doors can operate independently.

To enable interlocked operation you need to install the digital selector ET-DSEL or T-NFC as program selector on each door.
You cannot use the manual selector, nor the mechanical key selector EV-MSEL.

In case of double leaf door, carry out the electrical connection on the Master automation.

30.2) OPERATION OF THE INTERLOCK SYSTEM



The internal radars of each door are used independently when the distance between the two doors is such that there are no interferences in the detection field of the two internal radars.

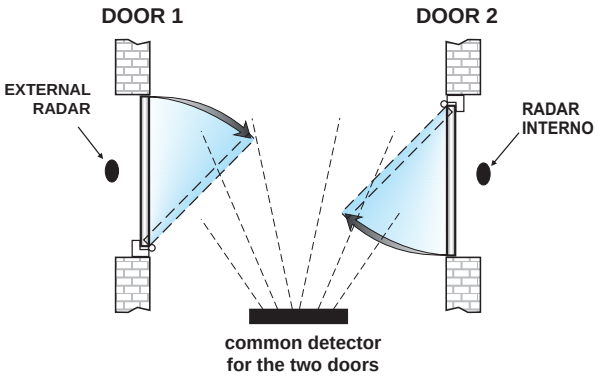
- Set the function **F26 = ON** on both door automations.
- Select which of the two doors must open first in case of simultaneous command on both:
  F27 = OFF: door opening 0.5 seconds after the command is issued.
  F27 = ON : door opening immediately after the command is issued.
  Decide which of the two doors must have opening priority and set on it
  F27 = ON; on the other door set F27 = OFF.
- Select whether you want to save the opening command on the internal radar of the second door while the first one is still moving.
  F28 = OFF: opening command saving disabled.
  To open the second door the radar must be activated when the first door has closed back.
  F28 = ON: opening command saving enabled.
  To open the second door, the radar can be activated even when the first door is still moving;
  the opening of the second one occurs automatically as soon as the first one has finished its closure.
- If you want the second door to automatically open after a preset time if its radar is detecting a presence, even though the first door has not yet closed, set the potentiometer P28.
  P28 = 0% : the function is disabled and the second door opens only after the first one has closed back.
  P28 = 01% : the second door opens 10 seconds after the opening of the first one if its radar is engaged.
  P28 = 100%: the second door opens 2 minutes after the opening of the first one if its radar is engaged.

The interlock operation includes the following steps:
a.) the person approaching from the outside activates the external radar of door 1, and door 1 opens;
b.) the person enters the internal area between the two doors;
c.) door 1 closes back after the pause time;
d.) the person must activate the internal radar of the second door to get door 2 to open;
e.) door 2 opens when door 1 has closed back;
f.) the person enters through door 2 and that door closes back at the end of the pause time.

Operation when the person approaches from the opposite direction is the same.
To open the door even when the other is open, it is necessary to actuate the command on the OPEN input.

30.3) INTERLOCK APPLICATION WITH A SINGLE INTERNAL DETECTOR

The use of a single internal detector, connected in parallel to the Start input of the PWB modules of both door automations, is required when the inner distance between the two doors doesn't allow to use two independent radars.



- Set the function F26 = ON on both door automations.
- Select which of the two doors must open first in case of simultaneous command on both:
  F27 = OFF: door opening 0.5 seconds after the command is issued.
  F27 = ON : door opening immediately after the command is issued.
  Decide which of the two doors must have opening priority and set on it
  F27 = ON; on the other door set F27 = OFF.

The interlock operation includes the following steps:
a.) the person approaching from the outside activates the external radar of door 1, and door 1 opens;
b.) the person enters the inner area between the two doors and engages the internal detector in common between the two doors;
c.) door 1 closes back after the pause time (detection on the Start input of door 1 is disabled during the pause time, throughout the closing procedure and for 5 seconds after the door has closed).
d.) door 2 opens when door 1 has closed back if the internal detector on the Start input is active;
e.) the person enters through door 2 and that door closes back at the end of the pause time.

Operation when the person approaches from the opposite direction is the same.
To open the door even when the other is open, it is necessary to actuate the command on the OPEN input.

30.4) INTERLOCK APPLICATION WITH ELECTRIC LOCKS DISABLED WITH CLOSED DOORS

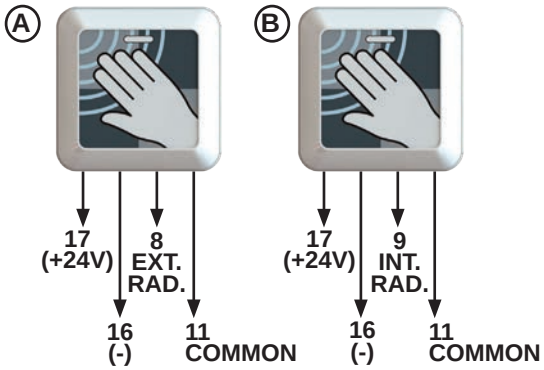
To enable this type of operation, set the function F29 = ON.
This application is used only when you install electric locks on the two interlocked doors and you want to keep them disabled when both doors are closed (breakout condition).
In the automatic bidirectional and monodirectional work programs, when door 1 receives an opening command, the electric lock that locks the leaf activates on door 2; the electric lock on door 2 is automatically disabled at the end of the closure of door 1.
Operation when the person approaches from the opposite direction is the same.
In the work program “Night lock” the electric lock is active when the door is closed, and in order to open the door it is necessary to issue a command on the AUX3 input.
To open the door even when the other is open, it is necessary to actuate the command on the OPEN input.

31) PRIVACY FUNCTION

The privacy function is used for environments where people must be able to close the door from the inside, like toilets, private rooms, meeting rooms.
In case of power cut-off the electromagnet is de-energised and the door can be manually opened.
For this reason we strongly recommend that you use the automation equipped with battery.
To prevent any contact between the user and the door, the following accessories need to be connected to the NEPTIS PLUS automation:

Ⓐ 1 touch button allowing the door to be opened from the outside.
Ⓑ 1 touch button allowing the door to be locked and opened from the inside.
Ⓒ 1 door closing electromagnet.
Ⓓ 2 red/green lights signalling that the door is unlocked / locked, on the inside and on the outside. Connect the signaling lights in parallel. Two different types of signaling light can be chosen: the "T-LED" model or the "V00175" model.
Ⓔ 1 NEPTIS PLUS automation
Ⓕ 1 N.C. emergency button allowing the electromagnet to be de-energised from the inside.
Ⓖ 1 ON/OFF key selector allowing the electromagnet to be de-energised from the outside in case of emergency.

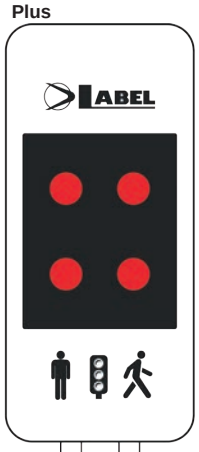
31.1) ELECTRIC CONNECTIONS



T-LED SIGNALING LIGHT

CONNECTION TO THE PWB CARD of Neptis Plus

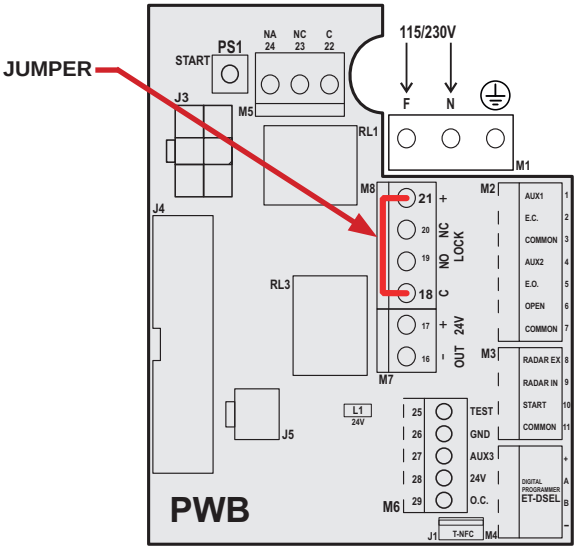
Ⓓ



CONNECT TERMINAL 16(-) TO TERMINAL 22(C)

terminal 17 +24V ← BLACK
BLUE → DO NOT CONNECT (BLUE LIGHT)
terminal 23 (NC) ← WHITE (GREEN LIGHT)
BROWN → terminal 24 (NO) (RED LIGHT)

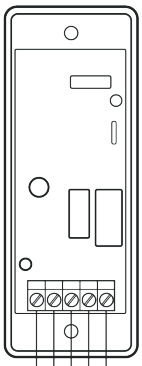
Neptis Plus ELECTRONIC CONTROL UNIT



SIGNALING LIGHT V00175

CONNECTION TO THE PWB CARD of Neptis Plus

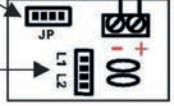
Ⓓ



(Neptis Plus) 17 → NC - 23
(Neptis Plus) 16 → COM - 22
NO - 24

Ⓒ

12 Volt NO
24 Volt OK



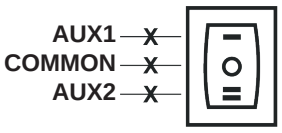
terminal 16 (-)

Jumper the C-24 terminal of the Neptis Plus control unit to set the power supply to 24V.

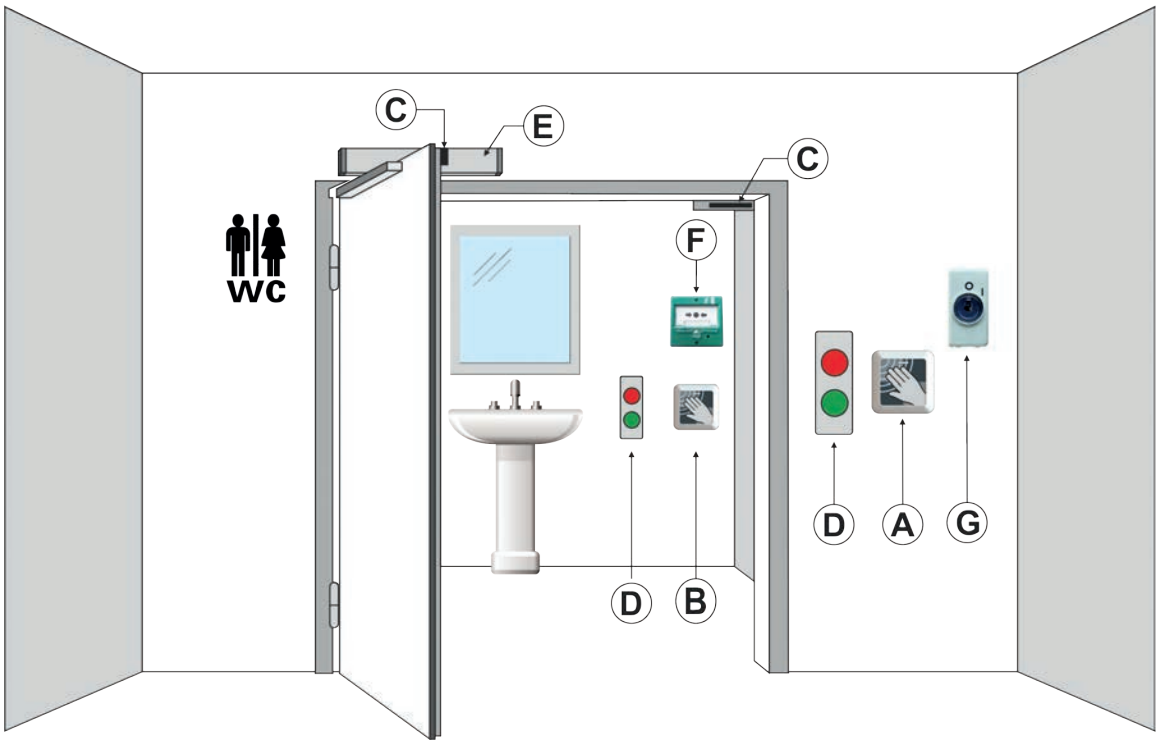
terminal 20 (NC)

Ⓕ

Ⓖ



X = Disconnect the manual selector from the terminals AUX1 (1), COMMON (3), AUX2 (4).



31.2) OPERATION OF THE PRIVACY SYSTEM

- To enable the privacy function, set function F77= ON using the digital selector.
- The automatic door is normally unlocked when there is nobody in the room and the signaling light (D) is green.
- If the outside touch button (A) is activated, the door executes the opening cycle, allowing the user to enter.
- Once the pause time has expired, the door closes automatically and waits to be locked.
- Within the time set in advance through the potentiometer P34, the user must activate the inside touch button (B) only once, to energise the door closing electromagnet (C).

The signaling light then turns red and the door cannot be opened through the outside button.

- To open the door and leave the room, the user must activate the inside touch button (B); the electromagnet (C) will be de-energised, the door will open and the signalling light (D) will switch back to green.

In case of emergency the door closing electromagnet (C) can be de-energised by activating the inside emergency button (F) or the outside key selector (G).
The door is unlocked and can be opened manually.

31.3) SETTINGS

- **FUNCTION F77**
  OFF: Privacy function disabled
  ON: Privacy function enabled

- **FUNCTION F78:** only read if you installed an electromagnet equipped with an open/closed status sensor (not supplied by Label).
  OFF: for electromagnet not equipped with open/closed status sensor (factory setting).
  The Neptis Plus automation automatically detects the closed door status.
  ON: for electromagnet equipped with open/closed status sensor. Connect the N.O. output contact of the electromagnet built-in status sensor to the AUX1 input of the LCB control unit to detect the closed door status.

- **FUNCTION F79**
  OFF: The signaling light (D) is steadily green while the door is moving and waiting for the door lock command.
  ON: The signaling light (D) alternately switches between red and green; it flashes slowly while the door is moving, and fast when the door is waiting for the door lock command.
  When the door is closed the light is always steadily red.

- **POTENTIOMETER P34**
  It allows to adjust the time within which the user can issue the lock command from the inside once the door has closed.
  If the value is "0", time is infinite, therefore the lock command can always be issued from the internal touch button.
  Values ranging between "1" and "100" will set a time ranging between 1 and 100 seconds (factory setting = 10 seconds).
  Once this time has expired, if the electromagnet is not locked, activating the touch button causes the door to open.

- **P35 POTENTIOMETER**
  It allows to set the time after which the electromagnet is automatically released after the door has been locked from the inside.
- If the value is "0" (factory setting), time is infinite, therefore the electromagnet remains locked until the user activates the inside button to leave.
- Values ranging between "1" and "100" will set a time ranging between 1 and 100 minutes.
  Once this time has expired the signalling light flashes, alternately switching between red and green, to warn the user that within 3 minutes the door will be unlocked.

32) MEANING OF BUZZER AUDIBLE SIGNALS

The electronic control unit of the automation is equipped with a buzzer emitting audible signals, whose meaning varies according to the number of beeps and the sound duration.

AUDIBLE SIGNAL (BEEP)	MEANING
5 short fast BEEPS	Automation not set-up when powered.
4 short BEEPS	Warning related to the start of the slow opening manoeuvre during the initial phase of the set-up cycle.
Extended sound (3 seconds)	Signals the end of the initial set-up.
Extended and intermittent sound (during motion)	The power limit that the automation can supply to the motor is exceeded while the leaf is moving. This signal is active if function F49 = OFF. To disable this warning set F49 to ON.
1 BEEP	After powering the automation (already started up before).
1 extended BEEP (2 seconds)	Motor / encoder disconnected or not working.
1 BEEP (before the opening)	Safety sensor test during opening failed and subsequent opening at slow speed.
1 BEEP (before the opening)	Battery failure or low battery charge warning.
2 BEEPS (before the closing)	Safety sensor test during closing failed and subsequent closing at slow speed.
1 extended BEEP (2 seconds)	Internal system failure.

33) MAINTENANCE PROGRAM

To ensure that the automatic door keeps running safely over time, it is recommended to carry out the maintenance operations once every 6 months.
The installer can set the number of opening/closing cycles after which the message "PROGRAMMED MAINTENANCE" will appear on the display of the selector ET-DSEL or T-NFC (P48 potentiometer).

Warning!
Before starting the operations on the automation, cut off the main supply line.

- Check that all the setscrews are correctly tightened.
- Clean and lubricate all the sliding and mobile components.
- Check all the connections of the wirings.
- Check that the setscrew of the arm is correctly tightened.
- Check that the leaf is steady and that the movement is smooth and without friction from ”door open” position up to “door closed” position.
- Check the conditions of the hinges and lubricate them.
- Check that speed, times, and safety functions are correctly selected.
- Check for the correct operation of the motion sensors and the safety sensors.
- Verify, in event of a power outage, that the door closes by means of the spring at a controlled speed without becoming dangerous.

Once maintenance is completed, reset the partial cycle counter and the event memory (see paragraph 24 "MAINTENANCE").

Warning!
Any potentially damaged or worn component must be replaced.

Make use of original spare parts only; for this purpose check LABEL Parts list.

LABEL S.p.A.
Via Ilariuzzi, 17/A - S. Pancrazio P.se - 43126 - PARMA - Italy
Tel. (+39) 0521/6752 - Fax (+39) 0521/675222
www.labelspa.com

DECLARATION OF INCORPORATION OF PARTLY ASSEMBLED MACHINERY

Manufacturer: Label S.p.A.

Address: Via Ilariuzzi 17/A - 43126 San Pancrazio Parmense, PARMA - ITALY

Declares that: the automation, mod. **Neptis Plus** (type NB-LET, NB-SLT, NB-SMT, NB-LETB, NB-SLTB, NB-SMTB)

Serial Number: 

designed for the control of pedestrian automatic swing doors
it complies with the essential safety requirements of the following directives:

- Low voltage directive LVD 2014/35/EU
- Electromagnetic compatibility directive EMC 2014/30/EU

Label declares that the automation **Neptis Plus** has been realized to be incorporated in a machinery or to be assembled with other devices to constitute a machinery covered by Machine Directive 2006/42/EC.

Harmonized European regulations applied:
EN 13849-1
EN 13849-2 (automation in category 2, PL = d)
EN 61000-6-2
EN 61000-6-3
EN 60335-2-103
EN16005

Also declares that it is not allowed the commissioning of the product indicated until the final machinery in which the product is incorporated is declared in conformity according to the Machinery Directive 2006/42/EC.
Label undertakes to submit, upon suitably justified request of the national authorities, information related to the partly completed machinery.

PERSON AUTHORIZED TO ESTABLISH THE TECHNICAL DOCUMENTATION:
Bruno Baron Toaldo
Via Ilariuzzi, 17/A
43126 - San Pancrazio P.se - Parma

Parma, 19/04/2021

The Chairman
Bruno Baron Toaldo

NEPTIS-PLUS

Made in Italy
by

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