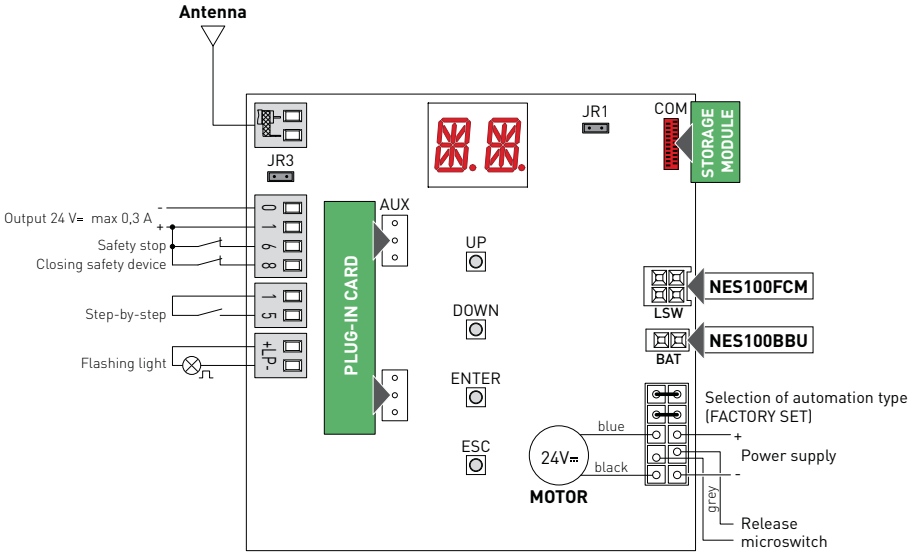
# Ditec CS12E

IP2162EN

Control panel installation manual for Ditec NEOS automations



# Index



# Key

This symbol indicates instructions or notes regarding safety, to which special attention must be paid.

This symbol indicates useful information for the correct functioning of the product.

Factory settings

# 1. General safety precautions

"Important instructions for installation safety.
Incorrect installation can cause serious injury"

This installation manual is intended for qualified personnel only.
Installation, electrical connections and adjustments must be performed in accordance with Good Working Methods and in compliance with the present standards.
Read the instructions carefully before installing the product. Bad installation could be dangerous.
The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as these are a potential source of danger.
Before installing the product, make sure it is in perfect condition.
Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard.
The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the automation.
Before connecting the power supply, make sure the plate data correspond to that of the mains power supply. An omnipolar disconnection switch with minimum contact gaps of 3 mm must be included in the mains supply.
Check that there is an adequate residual current circuit breaker and a suitable overcurrent cut-out upstream of the electrical installation in accordance with Good Working Methods and with the laws in force.
When requested, connect the automation to an effective earthing system that complies with current safety standards.
During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.
The electronic parts must be handled using earthed antistatic conductive arms.
The manufacturer of the motorisation declines all responsibility in the event of component parts being fitted that are not compatible with the safe and correct operation.
Use original spare parts only for repairing or replacing products.

## 1.1 Safety functions

The CS12E control panel has the following safety functions:

- obstacle recognition with force limiting;

The maximum response time of the safety functions is 0.5 s. The reaction time to a faulty safety function is 0.5 s.
The safety functions comply with the standards and performance level indicated below:

EN ISO 13849-1:2008 Category 2 PL=c
EN ISO 13849-2:2012

The safety function cannot be bypassed either temporarily or automatically. Fault exclusion has not been applied.

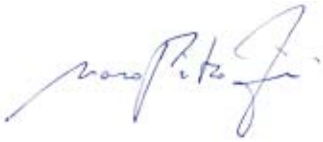
# 2. EC Declaration of Conformity

The manufacturer Entrematic Group AB, with headquarters in Lodjursgatan 10, SE-261 44 Landskrona, Sweden, declares that the Ditec CS12E type control panel complies with the conditions of the following EC directives:

EMC Directive 2004/108/EC
Low Voltage Directive 2006/95/EC
R&TTE Directive 1999/5/EC.

Landskrona, 28-03-2013

Marco Zini
(President & CEO)



# 3. Technical specifications

| Description | NES300EH | NES400EH | NES600EH |
|---|---|---|---|
| **Power supply** | 230 V~ 50/60 Hz | 230 V~ 50/60 Hz | 230 V~ 50/60 Hz |
| **Motor output** | 24 V⎓ 12 A max | 24 V⎓ 14 A max | 24 V⎓ 16 A max |
| **Accessories power supply** | 24 V⎓ 0.3 A | 24 V⎓ 0.3 A | 24 V⎓ 0.3 A |
| **Ambient temperature** | -20 °C - +55 °C | -20 °C - +55 °C | -20 °C - +55 °C |
| **Storable radio codes** | 100<br>200 [BIXMR2] | 100<br>200 [BIXMR2] | 100<br>200 [BIXMR2] |
| **Radio frequency** | 433.92 MHz | 433.92 MHz | 433.92 MHz |

N.B.: The given operating and performance features can only be guaranteed with the use of DITEC Entrematic accessories and safety devices.

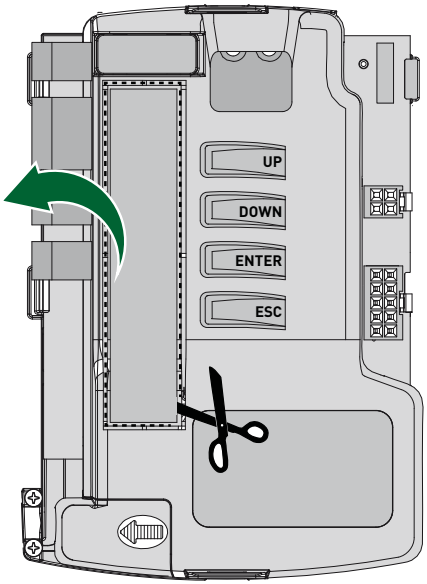
# 4. Commands

| Command | | Function | Description |
|---|---|---|---|
| 1 — 5 | NO | STEP-BY-STEP WITH AUTOMATIC CLOSING | When selecting BC → CS → 1-5, closing the contact starts a sequential opening or closing operation: opening-stop-closing-opening. WARNING: if automatic closing is enabled, the duration of the stop can be selected by selecting BC → SS. |
| | | STEP-BY-STEP WITHOUT AUTOMATIC CLOSING | When selecting BC → CS → 1-5, closing the contact starts a sequential opening or closing operation: opening-stop-closing-opening. |
| | | OPENING WITH AUTOMATIC CLOSING | When selecting BC → CS → 1-3, closing the contact activates an opening operation. |
| | | OPENING WITHOUT AUTOMATIC CLOSING | When selecting BC → CS → 1-3, closing the contact activates an opening operation. N.B.: Once the automation stops, command 1-5 performs the opposite operation to the one performed before the stop. |
| 1 — 6 | NC | CLOSING SAFETY DEVICE | When selecting BC → 64 → 1-6, opening of the safety contact stops and prevents any movement. N.B.: to set different safety contact functions, see the AP → SM parameter settings. |
| 1 — 6 | NO | CLOSING | When selecting BC → 64 → 1-4, closing the contact activates a closing operation. |
| 1 — 8 | NC | CLOSING SAFETY DEVICE | Opening the safety contact triggers a reversal of the movement (reopening) during the closing operation. When selecting BC → SO → ON, with the automation idle, opening of the contact prevents any operation. When selecting BC → SO → OF, with the automation idle, opening of the contact only prevents closing. |

WARNING: make a jumper for all NC contacts if not in use. The terminals with the same number are equal.

## 4.1 Inserting plug-in card (AUX)

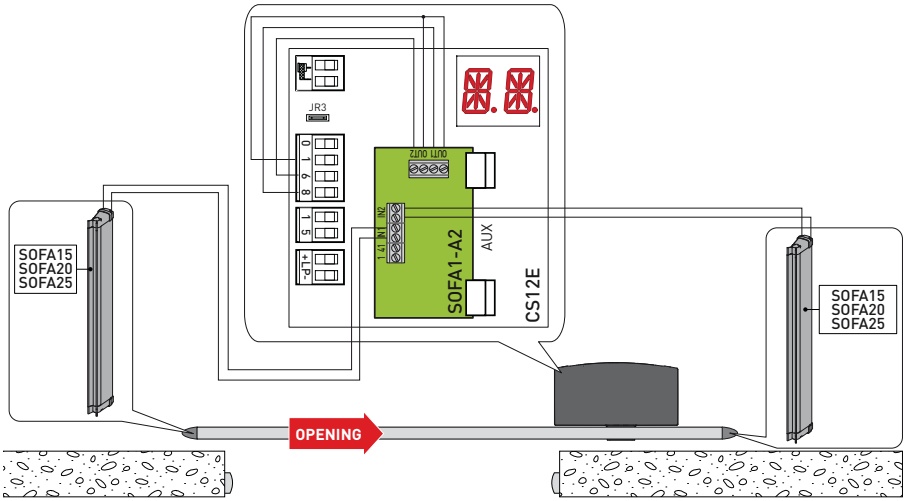
To access the plug-in card (AUX), cut the control panel cover as shown in the figure.

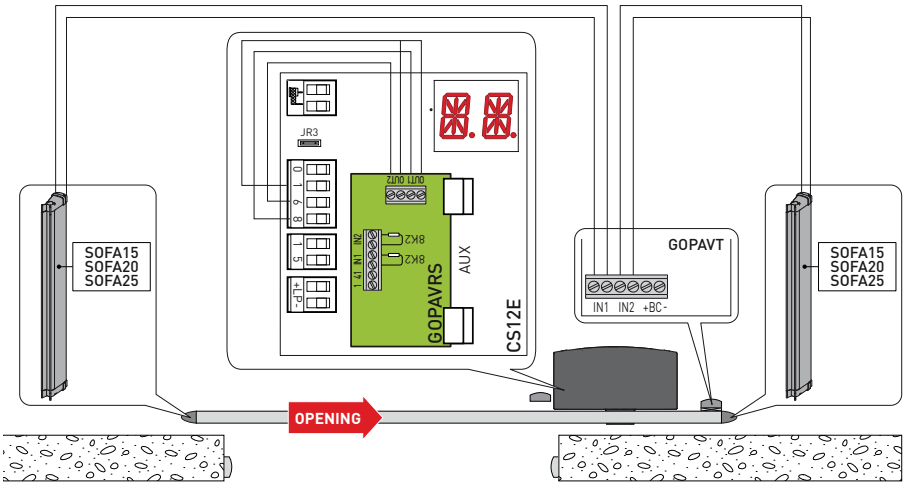



## 4.2 SOFA1-SOFA2 or GOPAVRS self-controlled safety edge

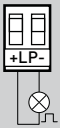
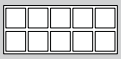
| Command | | Function | Description |
|---|---|---|---|
| SOFA1-SOFA2 GOPAV | | SAFETY TEST | Place the SOFA1-SOFA2 or GOPAVRS device into the special housing for AUX plug-in cards. If the test fails, an alarm message appears on the display. |
| 1 — 6 | NC | SAFETY STOP | When selecting AP → 06 → SEn, connect the output contact of the safety device to terminals 1-6 on the control panel (in series with the photocell output contact, if installed). |
| 1 — 8 | NC | CLOSING SAFETY DEVICE | When selecting AP → 08 → SEn, connect the output contact of the safety device to terminals 1-8 on the control panel (in series with the photocell output contact, if installed). |

# Examples of installation of self-controlled safety edge



# 5. Outputs and accessories

| Output | Value Accessories | Description |
|---|---|---|
|  | 24 V⎓ 0.3 A | Accessories power supply.<br>External accessories power supply output.<br>N.B.: the maximum absorption of 0.3 A corresponds to the sum of all terminals 1. |
|  | GOL148REA (433, 92 MHz) | Antenna connection (433, 92 MHz).<br>If the inside radio receiver is used, connect the supplied antenna wire (173 mm), or alternatively the GOL148REA antenna, using a coaxial cable, type RG58. |
|  | LAMPH 24 V⎓ 25 W | Flashing light.<br>The pre-flashing settings can be selected from the third level menu AP → WO and/or AP → WC. |
| AUX | | The control panel has a housing for plug-in cards.<br>The action of the card can be selected by selecting BC → AM.<br>WARNING: the plug-in cards must be inserted and removed with the power supply disconnected. |
| COM  | BIXMR2 | This allows the functioning configurations to be saved using the function SF → SV.<br>The saved configurations can be recalled using the function SF → RC. |
| | | The storage module allows the remote controls to be stored. If the control panel is replaced, the storage module being used can be inserted in the new control panel.<br>WARNING: the storage module must be inserted and removed with the power supply disconnected. |
|  | NES100FCM | Magnetic limit switch kit (optional only for Ditec NES300 - NES400). |
|  | NES100BBU 2x12 V 2Ah | BAT - Batteries functioning.<br>The batteries are kept charged when the power supply is on. If the power supply is off, the panel is powered by the batteries until the power is re-establish or until the battery voltage drops below the safety threshold. The panel turns off in the last case.<br>WARNING: the batteries must always be connected to the control panel for charging. Periodically check the efficiency of the batteries.<br>N.B.: the operating temperature of the rechargeable batteries is approximately +5°C/+40°C. |
|  | | Mains power supply, motor, release microswitch and automation wiring connection. |

# 6. Selections

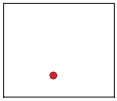
| Jumper | Description | OFF | ON |
|---|---|---|---|
| **JR1** | Display mode selection. | Display mode.<br>Only the values and parameters present can be displayed. | Maintenance mode.<br>Only the values and parameters present can be displayed and modified.<br>Going into maintenance mode is indicated by the permanent switching on of the right-hand point on the display. |
| **JR3** | Built-in radio receiver. | Disabled. | Enabled. |

# 7. Settings

N.B.: pressure on the keys can be quick (less than 2 s) or prolonged (longer than 2 s). Unless specified otherwise, quick pressure is intended.

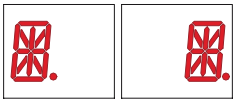
## 7.1 Switching the display on and off

The procedure to switch on the display is as follows:

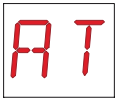


- press the ENTER key


- the display functioning check starts



- the first level menu is displayed



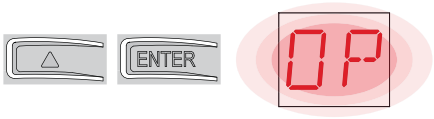

The procedure to switch off the display is as follows:

- press the ESC key


N.B.: the display switches off automatically after 60 s of inactivity.

## 7.2 Key combinations

- Simultaneous pressing of the keys ↑and ENTER performs an opening command.

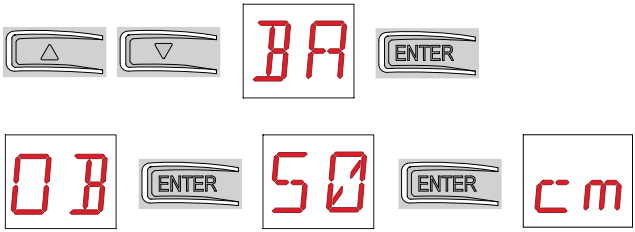



- Simultaneous pressing of the keys ↓and ENTER performs a closing command.


- Simultaneous pressing of the keys ↑ and ↓ performs a POWER RESET command. (interruption of the power supply and restart of the automation).


- Keeping press the UP ↑ or DOWN ↓ key, fast menu scrolling begin. To stop menu scrolling.

- In some menus, the parameter unit of measurement can be displayed by pressing the ENTER key once the value has been displayed (in the example, 50 cm).



## 7.3 Main menu

- using keys ↑ and ↓ select the desired function

- press the ENTER key to confirm

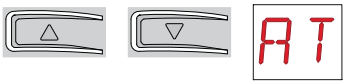

After confirming the selection, you access the second level menu.

| Display | Description |
|---|---|
| AT | AT - Automatic Configurations.<br>The menu allows you to manage the automatic configurations of the control panel. |
| BC | BC - Basic Configurations.<br>The menu allows you to display and modify the main settings of the control panel. |
| BA | BA - Basic Adjustments.<br>The menu allows you to display and modify the main adjustments of the control panel.<br>**N.B.: some settings require at least three operations before they are set correctly.** |
| RO | RO - Radio Operations.<br>The menu allows you to manage the radio operations of the control panel. |
| SF | SF - Special Functions.<br>The menu allows you to set the password and manage the special functions in the control panel. |
| CC | CC - Cycles Counter.<br>The menu allows you to display the number of operations carried out by the automation and manage the maintenance interventions. |
| AP | AP - Advanced Parameters.<br>The menu allows you to display and modify the advanced settings and adjustments of the control panel.<br>**N.B.: some settings require at least three operations before they are set correctly.** |

WARNING: depending on the type of automation and control panel, some menus may not be available.

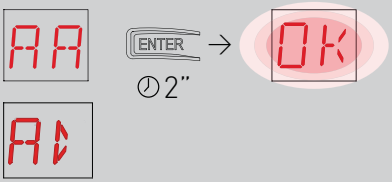
## 7.4 Second level menu AT (Automatic Configurations)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm

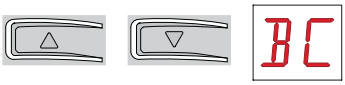

| Display | Description |
|---|---|
| RT | **RT - Opening to right.** |
| LF | **LF - Opening to left.** |
| H0 | **H0 - Predefined setting, residential use 0.**<br>This selection loads predefined values for certain standard parameters:<br>AC - enabling of automatic closing : disabled<br>C5 - step-by-step/opening command operation : step-by-step<br>RM - remote control operation : step-by-step<br>AM - AUX plug-in card operation : step-by-step<br>SS - Selection of automation status at start-up : open |
| H1 | **H1 - Predefined setting, residential use 1.**<br>This selection loads predefined values for certain standard parameters:<br>AC - enabling of automatic closing : enabled<br>TC - setting of automatic closing time : 1 minute<br>C5 - step-by-step/opening command operation : step-by-step<br>RM - remote control operation : step-by-step<br>AM - AUX plug-in card operation : step-by-step<br>SS - Selection of automation status at start-up : closed |
| C0 | **C0 - Predefined setting, condominium use 0.**<br>This selection loads predefined values for certain standard parameters:<br>AC - enabling of automatic closing : enabled<br>TC - setting of automatic closing time : 1 minute<br>C5 - step-by-step/opening command operation : opening<br>RM - remote control operation : opening<br>AM - AUX plug-in card operation : opening<br>SS - Selection of automation status at start-up : closed |
| RD | **RD - Resetting of general settings (SETTINGS RESET).**<br>ENTER → OK<br>2" |

| Display | Description |
|---|---|
| AA | **AA - Activating advanced parameters menu.**<br>  <br><br>After activation you can scroll through the third level menus.<br>The third level menus are activated for 30 min. |

Depending on the type of automation and control panel, some menus may not be available.

## 7.5 Second level menu - BC (Basic Configurations)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm


| Display | Description | | |
|---|---|---|---|
| AC | **AC - Enabling of automatic closing.**<br>ON - Enabled<br>OF - Disabled | ON | OF |
| SS | **SS - Selection of automation status at start.**<br>OP - Open<br>CL - Closed<br><br>Indicates how the control panel considers the automation at the time of switch-on, or after a POWER RESET command. | OP | CL |
| SO | **SO - Enabling of reversal safety contact functioning.**<br>ON - Enabled<br>OF - Disabled<br><br>When enabled (ON) with the automation idle, if the contact 1-8 is open, all operations are prevented.<br>When disabled (OF) with the automation idle, if the contact 1-8 is open, opening operations are permitted. | ON | OF |
| NI | **NI - Enabling of NIO electronic anti-freeze system.**<br>ON - Enabled<br>OF - Disabled<br><br>When enabled (ON) it maintains motor efficiency even at low ambient temperatures, increases the starting time ST to the maximum value and reduces the acceleration time TA to the minimum value.<br><br>N.B.: for correct operation, the control panel must be exposed to the same ambient temperature as the motors. | ON | OF |

WARNING: depending on the type of automation and control panel, some menus may not be available.

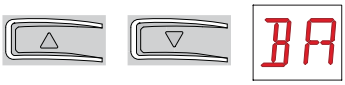
## 7.5.1 Third level menu - BC (Basic Configurations)

Access the third level menu by activating function AA (see paragraph 7.4)

| Display | Description | | |
|---|---|---|---|
| HR | **HR - Enabling of operator present function**<br>ON - Enabled<br>OF - Disabled<br>N.B.: Set HR→ON only if 64→1-4 and C5→1-3. | ON | OF |
| 64 | **64 - Functioning of safety stop/closing command.**<br>1-4 - Closing<br>1-6 - Safety stop | 1-4 | 1-6 |
| C5 | **C5 - Step-by-step/opening command operation.**<br>1-5 - Step-by-step<br>1-3 - Opening | 1-5 | 1-3 |
| RM | **RM - Radio receiver operation.**<br>1-5 - Step-by-step<br>1-3 - Opening | 1-5 | 1-3 |
| AM | **AM - AUX plug-in card operation.**<br>1-5 - Step-by-step<br>1-3 - Opening | 1-5 | 1-3 |
| PP | **PP - Setting step-by-step sequence from command 1-5.**<br>ON - Opening-Stop-Closing-Stop-Opening<br>OF - Opening-Stop-Closing-Opening | ON | OF |
| S5 | **S5 - Duration of STOP in step-by-step sequence from command 1-5.**<br>ON - Permanent<br>OF - Temporary | ON | OF |
| OD | **OD - Selecting opening direction.**<br>LF - Opening to left.<br>RT - Opening to right.<br>The opening direction is intended by viewing the automation from the side being examined.<br><br>N.B.: Modification of status from RT to LF and vice versa performs an automatic RESET of the card. | LF | RT |

## 7.6 Second level menu - BA (Basic Adjustment)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm


| Display | Description | |
|---|---|---|
| MT | **MT - Display of type of automation.**<br>N3 - Motor with 300 kg capacity<br>N4 - Motor with 400 kg capacity<br>N6 - Motor with 600 kg capacity<br><br>N.B.: this parameter is DISPLAY only. | N3 N4 N6 |
| TC | **TC - Setting of automatic closing time. [s]**<br>It is set with different intervals of sensitivity.<br>• from 0" to 59" with intervals of 1 second;<br>• from 1' to 2' with intervals of 10 seconds. | 00 ▸ 59<br>1' ▸ 2'<br>1'00" |
| RP | **RP - Adjustment of partial opening measurement. [%]**<br>Adjusts the percentage of operation in relation to the total opening of the automation.<br>10 - Minimum<br>99 - Maximum | 10 ▸ 99<br>30 |
| TP | **TP - Setting of automatic closing time after partial opening. [s]**<br>It is set with different intervals of sensitivity.<br>• from 0" to 59" with intervals of 1 second;<br>• from 1' to 2' with intervals of 10 seconds. | 00 ▸ 59<br>1' ▸ 2'<br>00'30" |
| VA | **VA - Setting of opening speed. [cm/s]**<br>N.B.:<br>24 - Maximum with MT → N6<br>25 - Maximum with MT → N3 or N4 | 10 ▸ 25<br>15 |
| VC | **VC - Setting of closing speed. [cm/s]**<br>N.B.:<br>24 - Maximum with MT → N6<br>25 - Maximum with MT → N3 or N4 | 10 ▸ 25<br>15 |

| Display | Description | |
|---|---|---|
| R2 | **R2 - Adjustment of thrust on obstacles and current during opening [%]**<br>The control panel is equipped with a safety device that stops movement if an obstacle is detected during an opening operation with disengagement of 10 cm.<br>00 - Minimum thrust<br>99 - Maximum thrust | 00 99<br>50 |
| R 1 | **R1 - Adjustment of thrust on obstacles and current during closing [%]**<br>The control panel is fitted with a safety device which stops or reverses movement when an obstacle is detected during a closing operation.<br>00 - Minimum thrust<br>99 - Maximum thrust | 00 99<br>50 |

WARNING: depending on the type of automation and control panel, some menus may not be available.

N.B.: make adjustments gradually and only after performing at least three complete operations to allow the control panel to be set correctly and detect any friction during operations.

## 7.6.1 Third level menu - BA (Basic Adjustment)

Access the third level menu by activating function AA (see paragraph 7.4)

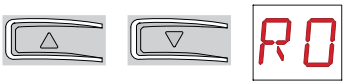
| Display | Description | |
|---|---|---|
| DT | **DT - Adjustment of obstacle recognition time. [s/100]**<br>10 - Minimum<br>60 - Maximum<br>N.B.: the parameter is adjusted in hundredths of a second. | 10▸60<br>40 |
| MP | **MP - Start at maximum power**<br>ON - During start-up it increases the thrust on obstacles to maximum.<br>OFF - During start-up the thrust on obstacles is that adjusted by R1 - R2 | ON OF |
| ST | **ST - Adjustment of start time. [s]**<br>0.5 - Minimum<br>3.0 - Maximum | 0.5▸3.0<br>2.0 |
| TA | **TA - Adjustment of acceleration time. [s]**<br>0.5 - Minimum (start speed is 75% of VA - VC)<br>2.0 - Maximum | 0.5▸2.0<br>1.5 |
| TD | **TD - Adjustment of deceleration time. [%]**<br>10 - Minimum<br>99 - Maximum | 10▸99<br>75 |
| OB | **OB - Adjustment of deceleration distance during opening. [cm]**<br>Indicates the distance from the end of the opening stroke where the deceleration ramp begins.<br>05 - Minimum<br>99 - Maximum<br>N.B.: reduce the deceleration space if there is a series of quick vibrations (chattering) in heavy gates installed with a slight incline. | 05▸99<br>40 |
| CB | **OB - Adjustment of deceleration distance during closing. [cm]**<br>Indicates the distance from the end of the closing stroke where the deceleration ramp begins.<br>05 - Minimum<br>99 - Maximum<br>N.B.: reduce the deceleration space if there is a series of quick vibrations (chattering) in heavy gates installed with a slight incline. | 05▸99<br>40 |

| Display | Description | |
|---|---|---|
| PO | **PO - Adjustment of approach speed during opening. [cm/s]**<br>Indicates the speed from the end of the deceleration ramp to the end of the stroke.<br>02 - Minimum<br>10 - Maximum<br>N.B.: gradually increase the approach speed if there is a series of quick vibrations (chattering) in heavy gates installed with a slight incline. |  |
| PC | **PC - Adjustment of approach speed during closing. [cm/s]**<br>Indicates the speed from the end of the deceleration ramp to the end of the stroke.<br>02 - Minimum<br>10 - Maximum<br>N.B.: gradually increase the approach speed if there is a series of quick vibrations (chattering) in heavy gates installed with a slight incline. |  |
| OO | **OO - Obstacle detection limit during opening [cm]**<br>Indicates the distance from the end of the opening stroke after which each obstacle is considered a stop.<br>05 - Minimum<br>99 - Maximum<br>N.B.: This parameter is only active if AP→FA→NO |  |
| OC | **OC - Obstacle detection limit during closing [cm]**<br>Indicates the distance from the end of the closing stroke after which each obstacle is considered a stop.<br>05 - Minimum<br>99 - Maximum<br>N.B.: This parameter is only active if AP→FC→NO |  |

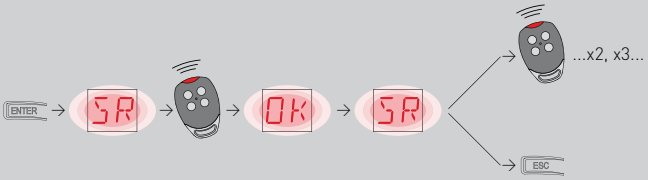
N.B.: make adjustments gradually and only after performing at least three complete operations to allow the control panel to be set correctly and detect any friction during operations.

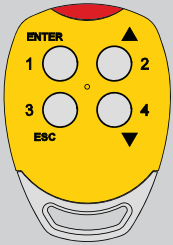
## 7.7 Second level menu - RO (Radio Operations)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm


| Display | Description | | |
|---|---|---|---|
| SR | **SR - Remote control storage.**<br>You can directly access the Remote control storage menu even with the display turned off, but only with the Display visualisation mode option set to 00 or 03:<br>- for transmitting a remote control not present in the memory;<br>- for transmitting an unstored channel of a remote control already present in the memory.<br>  | | |
| MU | **MU - Indication of maximum number of remote controls that can be stored in the integrated memory.**<br>You can store a maximum of 100 or 200 remote control codes.<br><br>20 - 200 storable remote controls<br>10 - 100 storable remote controls | 20 | 10 |

| Display | Description | | |
|---|---|---|---|
| RK | **RK - Menu navigation using remote control keyboard.**<br>ON - Enabled<br>OF - Disabled<br>**You are advised to use a NES100TXT remote control.**<br>With the display turned off, quickly type in the sequence of keys ③③②④① from the stored remote control you want to use.<br>Make sure all the CH keys are stored.<br>WARNING: during navigation with a remote control keyboard ALL the stored remote controls are inactive.<br>  <br>To aid viewing and adjustment (avoiding the need to continuously press the remote control), press the UP ↑ or DOWN ↓ key once to begin slowly scrolling through the parameters.<br>This scrolling movement is faster if the UP ↑ or DOWN ↓ key is pressed twice.<br>To stop the scrolling, press ENTER.<br>To confirm your choice of parameter, press ENTER again.<br>To test any new setting, switch off the display and issue an opening command using key ③.<br>Navigation using a remote control keyboard is automatically disabled after 4 minutes of inactivity or by setting RK→OF. | ON | OF |

WARNING: depending on the type of automation and control panel, some menus may not be available.

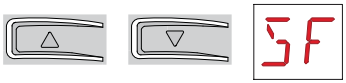
## 7.7.1 Third level menu - RO (Radio Operations)

Access the third level menu by activating function AA (see paragraph 7.4)

| Display | Description | | |
|---|---|---|---|
| C1<br>C2<br>C3<br>C4 | **C1, C2, C3, C4 - Selection of CH1, CH2, CH3, CH4 function of stored remote control.**<br>NO - No setting selected<br>1-3 - Opening command<br>1-4 - Closing command<br>1-5 - Step-by-step command<br>P3 - Partial opening command<br>1-9 - STOP command<br>If only one (any) CH key of the remote control is stored, command 1-3 (step-by-step/opening) is carried out.<br>If 2-4 CH keys of a single remote control are stored, the functions matched with the CH keys are as follows:<br>• CH1 = command 1-3 step-by-step/opening;<br>• CH2 = partial opening command;<br>• CH3 = no setting selected;<br>• CH4 = STOP command.<br>WARNING: options 1-3 (opening) and 1-5 (step-by-step) are available as an alternative and depend on the selection BC → RM. | NO<br>1-5<br>P3 | 1-3<br>1-4<br>1-9 |
| ER | **ER - Cancelling a single remote control.**<br>  | | |
| EA | **EA - Cancelling an entire memory.**<br>  | | |
| EC | **EC - Cancelling a single code.**<br>**(FOR FUTURE USE)** | | |
| RE | **RE - Setting memory opening from remote control.**<br>OF - Disabled<br>ON - Enabled<br>When enabled (ON), the remote programming is activated. To store new remote controls without using the control panel, press the PRG key of an already stored GOL4 remote control for 5 seconds until the LED comes on (within the range of the receiver) and press any one of the CH keys on the new remote control.<br>N.B.: make sure you do not accidentally memorise unwanted remote controls. | ON | OF |

## 7.8 Second level menu - SF (Special Functions)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm


| Display | Description |
|---|---|
| CU | **CU - Displaying the control panel firmware version.**<br>ENTER → R. → 1.1 → Release 1.1 (example) |
| SV | **SV - Saving user configuration on control panel storage module.**<br>ENTER → U1 → U2 (example) → ENTER (2") → OK<br>By selecting RO → MU → 10 you can save up to 2 personalised configurations in memory positions U1 and U2 only with the storage module present on the control panel.<br>WARNING: if more than 100 remote control codes are stored on the control panel storage module, you cannot save any user configuration. |
| RC | **RC - Loading configuration.**<br>ENTER → 01 → U2 (example) → ENTER (2") → OK<br>You can upload the user configurations previously saved U1 and U2 on the control panel storage module, or upload the predefined settings available in memory positions 01, 02, 03 and 04.<br>01 - parameter setting for passive edge on closure edge and stopping limit switch.<br>02 - parameter setting for passive edges on both edges and stopping limit switch.<br>03 - FUTURE USE<br>04 - FUTURE USE |
| RL | **RL - Loading the last configuration set.**<br>ENTER (2") → RL → OK<br>The control panel automatically saves the last configuration set, and keeps it memorised in the storage module. In the event of a fault or the replacement of the control panel, the last configuration of the automation can be restored by inserting the storage module and loading the last configuration set. |


WARNING: depending on the type of automation and control panel, some menus may not be available.

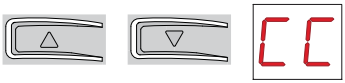
## 7.8.1 Third level menu - SF (Special Functions)

Access the third level menu by activating function AA (see paragraph 7.4)

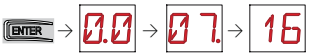
| Display | Description |
|---|---|
| SP | **SP - Setting the password.**<br>  <br><br>N.B.: this can only be selected when the password is not set.<br>Setting the password prevents unauthorised personnel from accessing selections and adjustments.<br>You can delete the set password by selecting the sequence JR1=ON, JR1=OFF, JR1=ON. |
| IP | **IP - Inserting the password.**<br>  <br><br>N.B.: this can only be selected when the password is set.<br>When the password is not inserted, you can access the display mode regardless of the selection made with JR1.<br>When the password is inserted, you can access in maintenance mode. |
| EU | **EU - Cancellation of user configurations and last configuration set in the storage module.**<br>  <br> |

## 7.9 Second level menu - CC (Cycles Counter)

- using keys ↑ and ↓ select the desired function



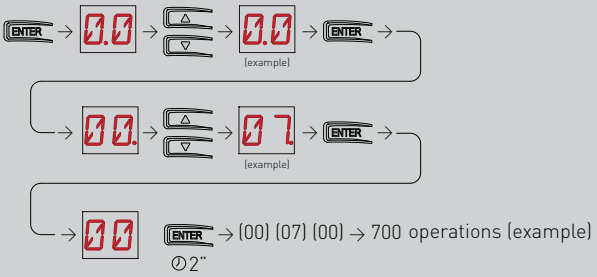

- press the ENTER key to confirm


| Display | Description |
|---|---|
|  | **CV - Display of total operations counter.**<br>  → 182 operations (example) |
|  | **CP - Display of partial operations counter.**<br>  → 716 operations (example) |
|  | **CH - Display of power supply hour counter.**<br>  → 256 hours of power (example) |

WARNING: depending on the type of automation and control panel, some menus may not be available.

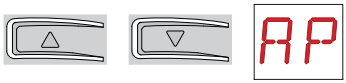
## 7.9.1 Third level menu - CC (Cycles Counter)

Access the third level menu by activating function AA (see paragraph 7.4)

| Display | Description |
|---|---|
| CA | **CA - Setting the maintenance alarm.**<br>You can set the required number of operations (regarding the partial operations counter) for signalling the maintenance alarm.<br>When the set number of operations is reached, the alarm message appears on the display MA.<br>  <br> |
| OA | **OA - Selecting maintenance alarm display mode.**<br>00 - Display (displays the alarm message MA)<br>01 - Flashing light (with the automation closed, it flashes 4 times, repeating this action every 60 minutes) and display (it displays the alarm message MA)<br>  |
| ZP | **ZP - Zero-setting of partial operations counter.**<br>  <br><br>For correct functioning, you are advised to reset the partial operations counter:<br>- after maintenance work;<br>- after setting the maintenance alarm interval. |

## 7.10 Second level menu - AP (Advanced Parameters)

- using keys ↑ and ↓ select the desired function




- press the ENTER key to confirm


| Display | Description |
|---|---|
| FA | **FA - Selection of opening limit switch mode.**<br>NO - None<br>SX - Stop limit switch (after activation the door wing stops its movement)<br>PX - Proximity limit switch (after activation the door wing continues as far as the end stop and any obstacle is considered a stop)<br>(with standard limit switches) |
| FC | **FC - Selection of closing limit switch mode.**<br>NO - None<br>SX - Stop limit switch (after activation the door wing stops its movement)<br>PX - Proximity limit switch (after activation the door wing continues as far as the end stop and any obstacle is considered a stop)<br>(with standard limit switches) |
| D6 | **D6 - Selection of device connected to terminals 1-6.**<br>NO - None<br>SE - Safety edge (if contact 1-6 opens, after stopping, there is a disengagement of 10 cm)<br>S41 - Safety edge with safety test (if contact 1-6 opens, after stopping, there is a disengagement of 10 cm)<br>PH - Photocells<br>P41 - Photocells with safety test |
| D8 | **D8 - Selection of device connected to terminals 1-8.**<br>NO - None<br>SE - Safety edge<br>S41 - Safety edge with safety test<br>PH - Photocells<br>P41 - Photocells with safety test |

| Display | Description | | |
|---|---|---|---|
|  | **DS - Setting of display visualisation mode.**<br>00 - No display<br>01 - Commands and safety devices with radio test (see paragraph 8.2).<br>Display of count down to automatic closing.<br>02 - Automation status (see paragraph 8.1)<br>03 - Commands and safety devices (see paragraph 8.2) |  |  |

WARNING: depending on the type of automation and control panel, some menus may not be available.

N.B.: make adjustments gradually and only after performing at least three complete operations to allow the control panel to be set correctly and detect any friction during operations.

## 7.10.1 Third level menu - AP (Advanced Parameters)

Access the third level menu by activating function AA (see paragraph 7.4)

| Display | Description | |
|---|---|---|
| d0 | **d0 - Setting of disengagement on stop during opening. [mm]**<br>00 - Minimum<br>10 - Maximum<br>N.B.: Not active if FA → 5x | 00 10<br>02 |
| dC | **dC - Setting of disengagement on stop during closing. [mm]**<br>00 - Minimum<br>10 - Maximum<br>N.B.: Not active if FC → 5x | 00 10<br>02 |
| OT | **OT - Selection of type of obstacle.**<br>00 - Overcurrent or door stopped<br>01 - Overcurrent<br>02 - Door stopped | 00 01<br>02 |
| CR | **CR - Correction to calculated speed. [mm/s]**<br>DO NOT USE | -- 9 +9 |
| R9 | **R9 - Enabling automatic closing after command 1-9 via radio (STOP).**<br>ON - Enabled<br>OF - Disabled<br>When enabled (ON), after a command 1-9 via radio, the automation carries out automatic closing (if enabled), after the set time. | ON OF |
| SM | **SM - Selection of operating mode of device connected to terminals 1-6.**<br>**00** - During the operation, the opening of the safety contact stops movement (with disengagement if d6 → 5E / 54).<br>**01** - During the operation, the opening of the safety contact stops movement (with disengagement if d6 → 5E/54). When the contact closes again, the interrupted operation continues.<br>**02** - During the operation, the opening of the safety contact stops movement (with disengagement if d6 → 5E/54). When the contact closes again, an opening operation is performed.<br>**03** - During the opening operation, the opening of the safety contact stops movement (with disengagement if d6 → 5E / 54). When the contact closes again, the interrupted opening operation is resumed. During the closing operation, the safety device is ignored.<br>**04** - During the closing operation, the opening of the safety contact reverses the movement. During the opening operation, the safety device is ignored.<br>**05** - During the closing operation, the opening of the safety contact stops and reverses the movement. During the opening operation, opening of the safety contact stops movement (with disengagement if d6 → 5E / 54). | 00 01<br>02 03<br>04 05 |



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| Display | Description | |
|---|---|---|
| TN | **TN - Setting of intervention temperature for NIO anti-freeze system. [°C]**<br>Adjustment of the working temperature of the control panel. The value does not refer to ambient temperature. | -- 9 20<br>5 |
| TB | **TB - Display of working temperature of control panel.**<br>DO NOT USE | |
| WO | **WO - Setting of pre-flashing time on opening. [s]**<br>Adjustment of the lead time for the switch-on of the flashing light, in relation to the start of the opening operation from a voluntary command.<br>00 - Minimum<br>05 - Maximum | 00 05<br>00 |
| WC | **WC - Setting of pre-flashing time on closing. [s]**<br>Adjustment of the lead time for the switch-on of the flashing light, in relation to the start of the closing operation from a voluntary command.<br>00 - Minimum<br>05 - Maximum | 00 05<br>00 |
| TS | **TS - Setting of renewal of automatic closing time after safety device release. [%]**<br>00 - Minimum<br>99 - Maximum | 00 99<br>99 |
| VR | **VR - Setting of learning speed. [cm/s]** | 05 10<br>05 |

N.B.: make adjustments gradually and only after performing at least three complete operations to allow the control panel to be set correctly and detect any friction during operations.

# 8. Display visualisation mode

WARNING: depending on the type of automation and control panel, some menus may not be available.

## 8.1 Display of automation status

The automation status display mode is only visible with Display visualisation mode set to 02.

AP → DS → 02

| Display | Description |
|---|---|
| OD→RT | |
|  | Automation closed. |
|  | Automation closed. Release door open. |
|  | Automation open. |
|  | Automation open. Release door open. |
|  | Automation stopped in intermediate position. |
|  | Automation stopped in intermediate position. Release door open. |
|  | Automation closing. |
|  | Automation that slows down during closing. |
|  | Automation opening. |
|  | Automation that slows down during opening. |

| Display | Description |
|---|---|
| 00→LF | |
|  | Automation closed. |
|  | Automation closed. Release door open. |
|  | Automation open. |
|  | Automation open. Release door open. |
|  | Automation stopped in intermediate position. |
|  | Automation stopped in intermediate position. Release door open. |
|  | Automation closing. |
|  | Automation that slows down during closing. |
|  | Automation opening. |
|  | Automation that slows down during opening. |

## 8.2 Display of safety devices and commands

The safety device and command display mode is only visible with Display visualisation mode set to 01 or 03.

AP → DS → 01

AP → DS → 03

| Display | Description |
|---|---|
|  | 1-3 - Opening command. |
|  | 1-4 - Closing command. |
|  | 1-5 - Step-by-step command. |
|  | 1-6 - Safety device with opening and closing stop. |
|  | 1-8 - Safety with closing reversal. |
|  | P3 - Partial opening command. |
|  | 3P - Opening command with operator present. |
|  | 4P - Closing command with operator present. |
|  | RX - Radio reception (of any memorised key of a transmitter present in the memory). |
|  | NX - Radio reception (of any non-memorised key). |
|  | CX - Receipt of command from AUX card. |
|  | F1 - Closing limit switch |

| | |
|---|---|
|  | F2 - Opening limit switch |
|  | O1 - Detection of an obstacle during closing |
|  | O2 - Detection of an obstacle during opening |
|  | OO - Reaching of obstacle detection limit during opening |
|  | OC - Reaching of obstacle detection limit during closing |
|  | S1 - Detection of stop during closing |
|  | S2 - Detection of stop during opening |
|  | SW - Release door open.<br>When the release door is closed, the control panel performs a RESET (alarm  ) |
|  | RV - Enabling/disabling of built-in radio receiver via JR3. |
|  | MQ - Learning operation of mechanical end stops in progress. |
|  | HT - Heating of the motors (NIO function) in progress. |
|  | hr - Indicates OPERATOR PRESENT mode (hold to run). |
|  | J1 - Variation of the JR1 jumper status. |

## 8.3 Display of alarms and faults

Alarms and faults can be displayed with any display selection. The signalling of alarm messages takes priority over all other displays.

| Type of alarm | Display | Description | Operation |
|---|---|---|---|
| Mechanical alarm |  | M0 - Selected motor not suitable. | Set correct motor wiring. |
| |  | M3 - Automation blocked (open/closed) | Check the mechanical parts |
| |  | M4 - Motor short circuit | Check the motor is correctly connected.<br>Check the motor is working properly. |
| |  | M8 - Gate too long error (>25 m) | Check the rack / chain belt |
| |  | M9 - Gate too short error (< 200 mm) | Manually check that the door wing moves freely. |
| |  | MB - Absence of motor during an operation. | Check connection of motor.<br>Check motor brush contacts.<br>If the problem persists, contact Technical Support. |
| |  | MD - Irregular functioning of motor opening limit switch. | Check connection of the motor opening limit switch. |
| |  | ME - Irregular functioning of motor closing limit switch. | Check connection of the motor closing limit switch. |
| |  | MI - Detection of fifth consecutive obstacle. | Check for the presence of permanent obstacles along the stroke of the automation. |
| |  | ML - Inverted limit switches | Check limit switch connection. |
| Power supply operations alarm |  | R0 - Insertion of a storage module containing over 100 stored remote controls. Warning: R0 → MU → 20 is set automatically.<br><br>The alarm is displayed 3 times only. | To save the system configurations on the storage module, delete any stored remote controls and bring the total to less than 100. Set R0 → MU → 10. |

| Type of alarm | Display | Description | Operation |
|---|---|---|---|
| Power supply operations alarm |  | R3 - Storage module not detected (with JR3=ON). | Insert a working storage module or set JR3=OFF. |
| |  | R5 - Storage module not working (regardless of JR3) | Replace the storage module. |
| Accessories alarm |  | A0 - Failure of test of safety sensor on contact 6. | Check that device SOFA1-A2/GOPAV is working correctly.<br>If the supplementary card is not inserted, check that J6 is not set to S4/P4 |
| |  | A3 - Failure of test of safety sensor on contact 8. | Check that device SOFA1-A2/GOPAV is working correctly.<br>If the supplementary card is not inserted, check that J8 is not set to S4/P4 |
| |  | A9 - Flashing light output short circuit alarm | Check that the flashing light is working properly. |
| Power supply alarm |  | P1 - Microswitch voltage too low | Check the control panel is powered correctly. |
| Control panel internal alarm |  | I7 - Internal parameter outside limits error | Reset.<br>If the problem persists, contact Technical Support. |
| |  | I8 - Program sequence error | Reset.<br>If the problem persists, contact Technical Support. |
| |  | IA - Internal parameter error (EEPROM) | Reset.<br>If the problem persists, contact Technical Support. |
| |  | IB - Internal parameter error (RAM) | Reset.<br>If the problem persists, contact Technical Support. |
| |  | IC - Operation time out error (>5 min or >7 min in acquisition mode) | Manually check that the door wing moves freely.<br>If the problem persists, contact Technical Support. |
| |  | IH - Overcurrent with motor switched off alarm | Reset.<br>If the problem persists, contact Technical Support. |

| Type of alarm | Display | Description | Operation |
|---|---|---|---|
| Control panel internal alarm |  | IM - Shortcircuited motor MOSFET alarm | Reset.<br>If the problem persists, contact Technical Support. |
| |  | IO - Interrupted power circuit (motor MOSFET open) | Reset.<br>If the problem persists, contact Technical Support. |
| |  | IR- Motor relay malfunctioning | Reset.<br>If the problem persists, contact Technical Support. |
| |  | Firmware reset (SIGNAL ONLY) | |
| Service |  | V0 - Request for maintenance intervention | Proceed with the scheduled maintenance intervention. |

# 9. Start-up

WARNING The operations related to point 5 are performed without safety devices. The display parameters can only be adjusted when the automation is idle. The automation automatically slows when approaching the end stops or stop limit switches. At every start-up the control panel receives a RESET and the first operation is performed at reduced speed (automation position acquisition).

1- Make a jumper for NC safety contacts.
2- Adjust the opening and closing stop limit switches, if any.
N.B.: The limit switches must remain pressed until the operation is completed and placed as shown in the Ditec NEOS installation manual.
3- Set the desired opening direction from the AT menu.
4- Manually move the sliding gate and make sure the entire stroke slides evenly and without friction.
5- Switch on and check the automation is operating correctly with the subsequent opening and closing commands (see paragraph 7.2).
Check that the limit switches are activated if used.
6- Connect the safety devices D6 and D8 → S4 (removing the relative jumpers) and check they are working correctly.
7- To modify the operation and deceleration speed settings, automatic closing times and thrust on obstacles, consult the menus.
8- Connect any other accessories and check they are functioning.

WARNING: Ensure that the forces exerted by the door wings are compliant with EN12453-EN12445 regulations.

9- If required, store the remote controls using command R0 → SR.
10- Once the start-up and check procedures are completed, close the container.

N.B.: in the event of servicing or if the control panel is to be replaced, repeat the start-up procedure.

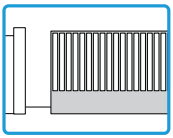
# 10. Troubleshooting

| Problem | Possible cause | Alarm signalling | Operation |
|---|---|---|---|
| The automation does not open or close. | No power. | | Check power supply cable. |
| | Short circuited accessories. | | Disconnect all accessories from terminals 0-1 (a voltage of 24V= must be present) and reconnect them one at a time. Contact Technical Service |
| | Blown line fuse. | | Replace fuse. |
| | Safety contacts are open. |  | Check that the safety contacts are closed correctly (NC). |
| | Safety contacts not correctly connected or self-controlled safety edge not functioning correctly. |  | Check connections to terminals 6-8 on control panel and connections to the self-controlled safety edge. |
| | SAFETY SWITCH release microswitch open. |  | Check that the hatch is closed correctly and the microswitch makes contact. |
| | Photocells activated. |  | Check that the photocells are clean and operating correctly. |
| | The automatic closing does not work. | | Issue any command. If the problem persists, contact Technical Service |
| | Mechanical fault |  | Check the rack or transmission chain, and/or the mechanical parts. |
| | Faulty motor |  | Check motor connection, if the problem persists, contact Technical Service. |
| | Faulty control panel |  | Contact Technical Service. |
| The external safety devices are not activated. | Incorrect connections between the photocells and the control panel. | | Check that  /  is displayed<br>Connect NC safety contacts together in series and remove any jumpers on the control panel terminal board. |
| | | | Check the  →  and  →  setting |

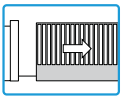
| | | | |
|---|---|---|---|
| The automation opens/closes briefly and then stops. | There is a presence of friction. | M9<br>IC<br>MI | Manually check that the automation moves freely and check the R 1/R2 adjustment Contact Technical Service |
| The remote control has limited range and does not work with the automation moving. | The radio transmission is impeded by metal structures and reinforced concrete walls. | | Install the antenna outside. |
| | | | Replace the transmitter batteries. |
| The remote control does not work | No storage module or incorrect storage module. | R0<br>R3<br>R5 | Switch the automation off and plug in the correct storage module. |
| | | | Check the correct memorisation of the transmitters on the built-in radio. If there is a fault with the radio receiver that is built into the control panel, the remote control codes can be read by removing the storage module. |
| The flashing light is not working | Bulb burnt or flashing light wires detached or short-circuited. | A9 | Check the bulb and/or wires. Contact Technical Service |

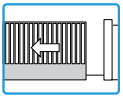
# 11. Examples of sliding gate applications

When the CS12E control panel is used for sliding automation applications, the following connections can be made:



- set the correct opening direction:




**Example 1 - Door wing stops against mechanical end stops (standard setting)**

Set



**Example 2 - Door wing stops against limit switches (setting with standard limit switches installed)**

Connect the limit switches to the terminal LSW

Set



With these settings, if an obstacle is detected while opening, the door wing stops and performs a disengagement operation whereas during a closing operation, the door wing reopens.

**Example 3 - Door wing stops against mechanical end stops and reverses motion if an obstacle is detected**

Connect the limit switches to the terminal LSW

Set



In this configuration, the door wing stops against its respective mechanical closing and opening end stop. In the event of obstacle detection before the activation of the proximity limit switch while opening, the door wing stops, performing a disengagement operation; after the proximity limit switch is activated, the door wing stops against the obstacle.
In the event of obstacle detection during closing and before the activation of the proximity limit switch, the door wing reopens; after the proximity limit switch is activated, the door wing stops against the obstacle.

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# Quick Reference Ditec CS12E

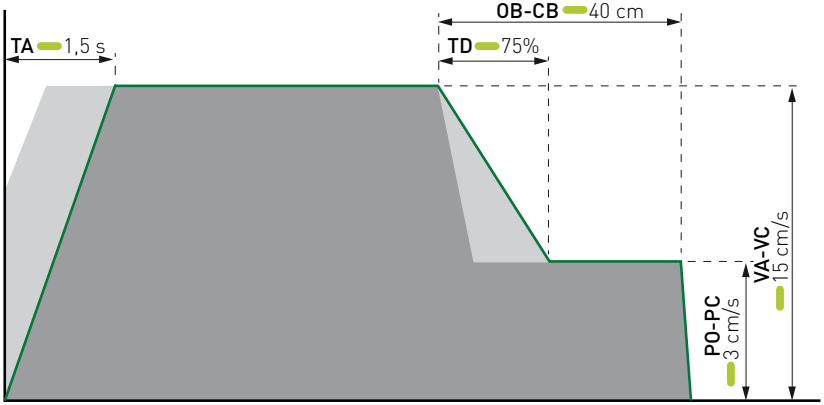
Quick guide for standard installation of Ditec CS12E automation with Ditec CS12E control panel

**Read the instructions carefully before installing the product. Bad installation could be dangerous.**

**For different setting and further informations consult the installation manuals of Ditec NeoS, control panel Ditec CS12 and the accessories too.**

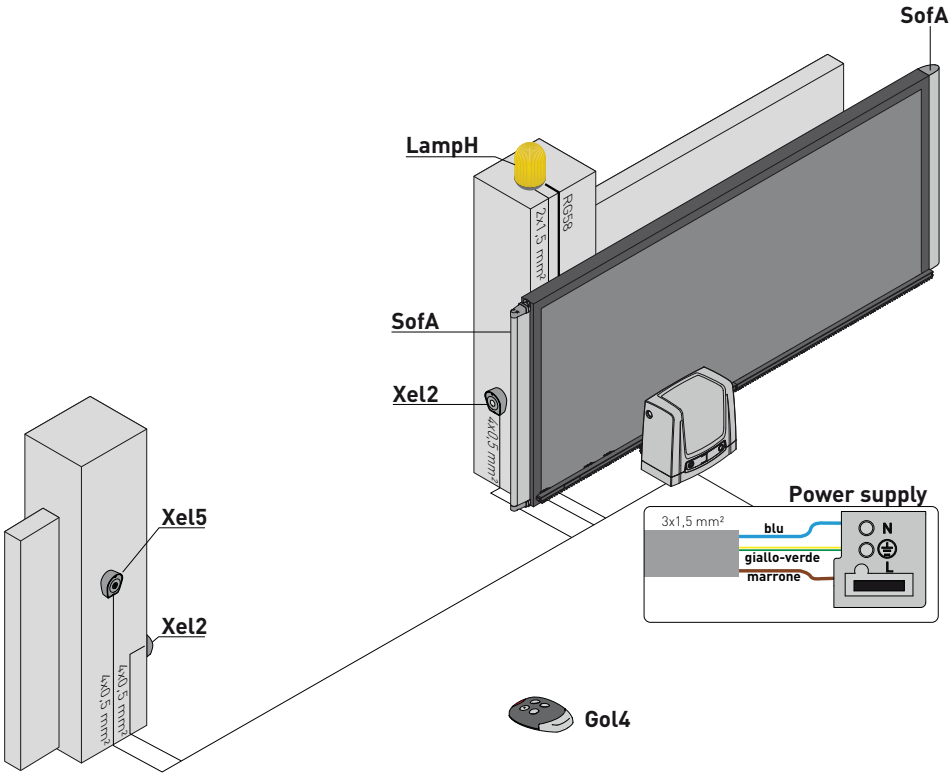
## Synthetic diagram of operation

**The parameters shown in the figure are adjusted to comply with exerted forces as outlined in EN 12453 and EN 12445.**



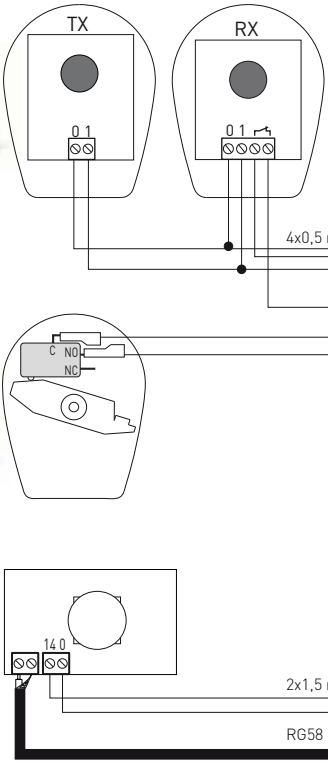

Factory setting

# Installation type



# Accessories

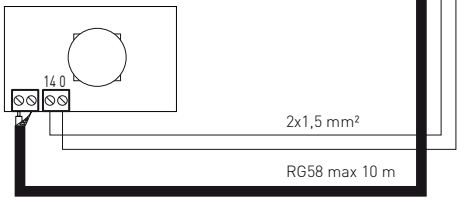
## XEL2



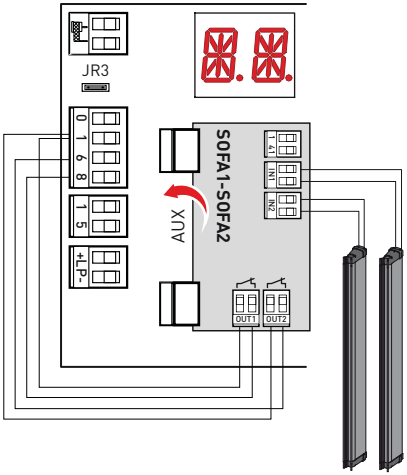

## XEL5



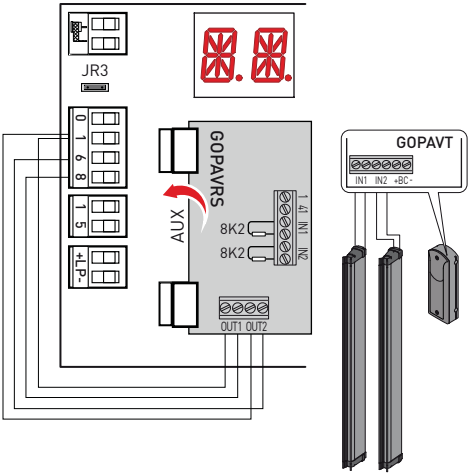

## LAMPH




## SOFA1-A2

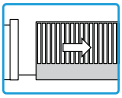



## GOPAVRS

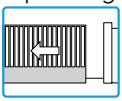



# Selection of opening direction

Opening to the right (factory settings)




Opening to the left




# Radio enabling


# Setting enabling

Step by step mode without automatic closing (residential use)


Step by step mode with automatic closing of 1 min (residential use) (factory settings)


Opening mode with automatic closing of 1 min (condominial use)


# Limit switches type enabling

Without limit switches (factory settings)



Stop limit switches (with limit switches installed)



Proximity limit switches