Computec

CDD6

Computec Door Drive 6

Lift door Controller

QUICK REFERENCE for MAGNETIC SWITCHES applications

Note: the complete user manual can be downloaded from the website www.computecelectronics.com (scan the QR code below)

EN	CE			PRJ1166_01_07_03_01_03_QR	rev.04

Standards and Codes References

All the codes references can be found in the door drive user manual.

Door Drive data

Supply voltage	[100 ; 240]Vac 1-ph 50-60Hz, (115V – 20%, 230V + 30%)	Vac
Available Peak output power	300	VA
Nominal output power	200	VA
Working Temperature	[-10; +60]	°C
Humidity	[20;80] non condensing	%
Electrical protection	[5x20, 4A] rapid fuse on main power supply line [5x20, 8A] fuse on the battery supply line	
Environmental protection	IP-54 case	

Compatibles Motors Data

(Code) Motor Type / Transmission / Encoder	Nominal power	Nominal Voltage	Nominal current
DC motors for magnetic switches applications			
(05) DC 1Nm comp. F28/LMDC2010	-	-	3.6A
(06) DC 2Nm comp. F29/LMDC2011	-	-	6.0A
(07) DC 1Nm comp. Digidoor 1Nm	-	-	3.6A
(08) DC 2Nm comp. Digidoor 2Nm	-	-	6.0A
(19) Siboni™ 65PC132 Poly V	150VA	65V	2.7A
(22) Siboni™ 65PC132 Poly V Digidoor™ 1Nm	150VA	65V	2.7A

Compatibles Magnetic switches systems

Manufacturer	System Name	Notes
Semag™	**ASC 10/20 ADC10/11 – Digidoor SEM 10/11**	The digidoor system does not have the LA switch
RST™	**LMDC 2010/2011**	-
Sematic™	**SDS DC-compatible**	-
Sematic™	**F28 / F29, F28 / 29 B, F28C / F29 C**	-

Installation

The installation of the door drive has to be performed by expert technical personnel, having all the professional requirements expected, based on the active law in the installation country. Before proceeding with the installation of the door drive it is mandatory to use all the necessary tools to execute the installation operations. Be sure to operate in safe working conditions, setting the lift system in inspection mode, before to start any operation on the door operator

The CDD6 system is a part of the complete lift door operator, consisting in:

- Mechanical door operator: Header, Carriages, Belt, Motor
- Door Drive (the CDD6)
- Contacts Interface to the main lift controller

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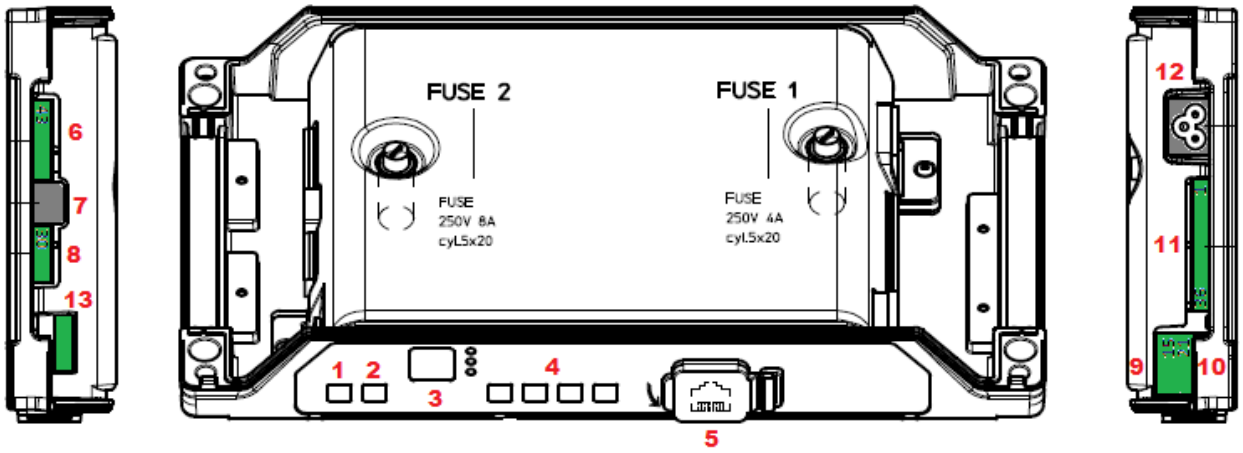
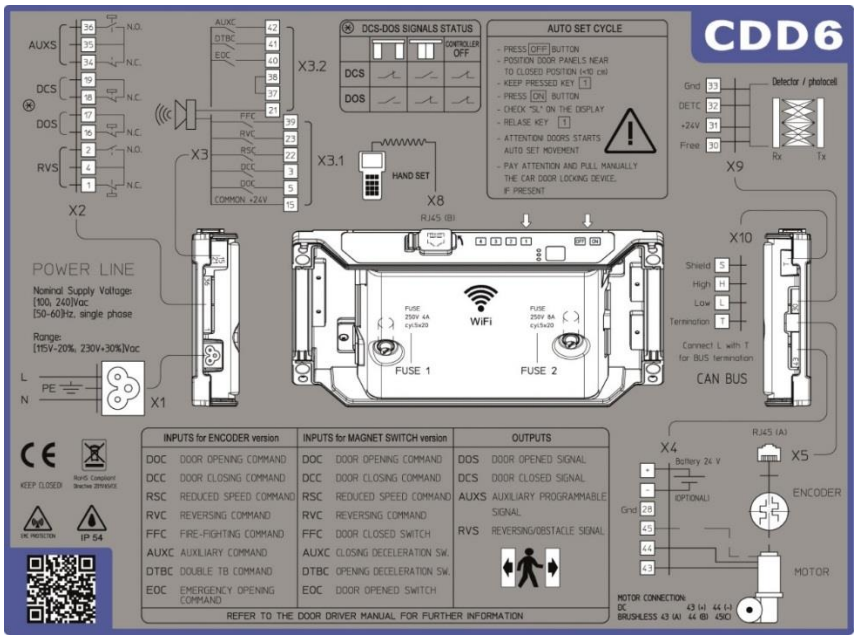
Below it is reported the connection diagram of the door drive:



Il controller di porta presenta le seguenti connessioni:

N°	ID	Description
1	ON	Power on key
2	OFF	Power off key
3	Display	7-segment display (two digits) to show status/configuration
4	“1” “2” “3” “4”	Functional keys for visualization/movement/programming
5	X8	Plug for upgrade/configuration external device
6	X4	Plug for motor/battery
7	X5	RJ45 plug for motor encoder
8	X9	Direct connection of optical light curtains (including power)
9	X3.1	Plug for Elevator controller commands
10	X3.2	Plug for local inputs of the door operator
11	X2	Plug for drive output to the elevator controller
12	X1	Plug for main power supply
13	X10	CAN bus connector

For further details, please refer to the self-explicative door drive stick (reported below) applied on the CDD6 door drive cover.



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Check of the electrical parts

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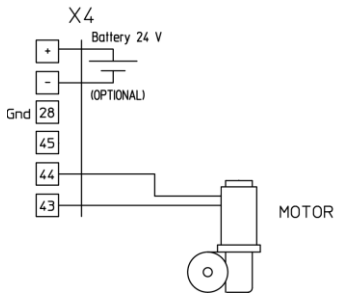
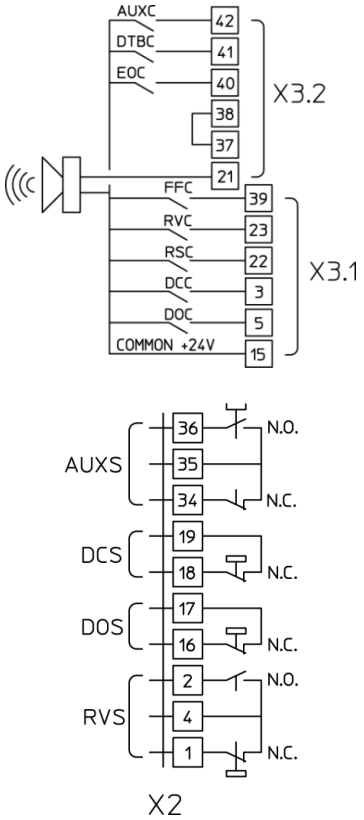
Verify the presence of the correct supply voltage, as reported in the technical specifications. Once the mechanical installation of the CDD6 drive is completed, proceed as reported below

<table>
<tr><th>Step</th><th>Operation</th><th>Description</th></tr>
<tr><td>0</td><td>Preliminary checks</td><td>Press OFF button on the door drive front panel.
Be sure that no power supply is present.</td></tr>
<tr><td>1</td><td>Motor Connections
 
</td><td>1. Connect the motor cable to the pins of the X4 connector:
<table>
<tr><th>PIN</th><th>Description</th><th>Wire color</th></tr>
<tr><td>43</td><td>Positive</td><td>Brown</td></tr>
<tr><td>44</td><td>Negative</td><td>White</td></tr>
</table>
Keep in any case the previous connection order, in case no numbering rings are present, or in case the wires color is different from the one described.

If present, connect the external battery kit to the positive (+) and negative (-) pins of the X4 connector.</td></tr>
<tr><td>2</td><td>MLC interface connection
 
</td><td>In case of replacement of different controllers with different plugs proceed as following reported, otherwise plug the previous connectors as they are.
Check the common voltage used, and the used contacts:
<table>
<tr><th>Common</th><th>Connections</th></tr>
<tr><td>Internal 24V_DD (CDD6)</td><td>Check the presence of the 37-38 bridge as GND reference</td></tr>
<tr><td>External 24V_EC (MLC)</td><td>Remove the 37-38 bridge, only in case there are no local contact installed on the car roof</td></tr>
</table>
For further information please refer to the user manual

Connection of the MLC commands and of the local contacts:
<table>
<tr><th>PIN</th><th>Name</th><th>X3.1 pin description</th></tr>
<tr><td>15</td><td>24V</td><td>Common 24V, available for MLC commands</td></tr>
<tr><td>5</td><td>DOC</td><td>Opening command</td></tr>
<tr><td>3</td><td>DCC</td><td>Closing command</td></tr>
<tr><td>22</td><td>RSC</td><td>Reduced speed command</td></tr>
<tr><td>23</td><td>RVC</td><td>Reversing command from detector</td></tr>
<tr><td>39</td><td>LC (FFC)</td><td>Magnetic contact for Door closed limit</td></tr>
<tr><th>PIN</th><th>Name</th><th>X3.2 pin description</th></tr>
<tr><td>42</td><td>RC (AUXC)</td><td>Magnetic contact for closing deceleration limit</td></tr>
<tr><td>41</td><td>RA (DTBC)</td><td>Magnetic contact for opening deceleration limit</td></tr>
<tr><td>40</td><td>LA (EOC)</td><td>Magnetic contact for door open limit</td></tr>
<tr><td>38</td><td>0V_IN</td><td>GND input for the photo-coupled inputs</td></tr>
<tr><td>37</td><td>0V_DD</td><td>Auxiliary GND of the door drive for the inputs</td></tr>
<tr><td>21</td><td>BUZS</td><td>Contact for Acoustic signal</td></tr>
</table>
Outputs connection:
<table>
<tr><th>PIN</th><th>Name</th><th>X2 Pin Description</th></tr>
<tr><td>1, 4, 2</td><td>Rev.</td><td>Reversal relay</td></tr>
<tr><td>16, 17</td><td>Open</td><td>Door open relay</td></tr>
<tr><td>18, 19</td><td>Close</td><td>Door closed relay</td></tr>
<tr><td>34,35,36</td><td>AUX</td><td>Auxiliary (Alarm signal by default)</td></tr>
</table></td></tr>
</table>

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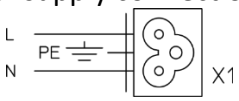
		Please Note: by default, open/closed door relays are N.C. (they open in the final position). The behavior logic can be changed in the settings P-76 (door relay closed), P-77 (door relay open). When door drive is not powered, the contacts are always closed.
3	Power supply connection 	Nominal Supply Voltage: [100 – 240]Vac [50-60]Hz, single phase Range: [115-20%, 230+30%]Vac
4	Final Checks	Verify that required signals are connected, **then apply the cover**. For further information please refer to the user manual

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Direct replacement of previous door drives

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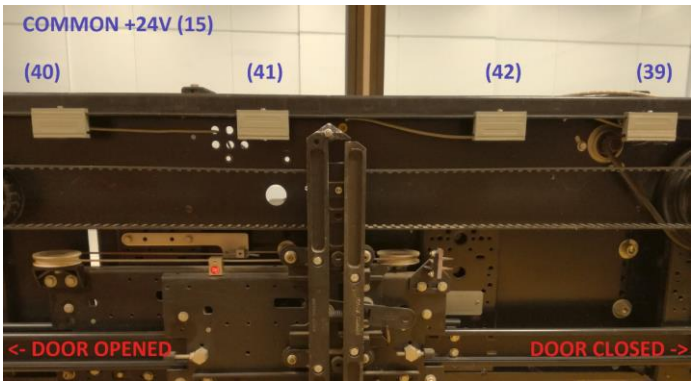
The CDD6 door drive, when used for magnetic switches old drive replacement, permits to control the motor and to move the lift door with better speed profiles and better torque control. It is anyway very, during the installation phase, to apply the correct cabling for the CDD6 inputs from the door operator, and for the outputs from CDD6 to lift controller. Following it is shown how to proceed in the different situations. In any case there is a common operation sequence to follow, to perform a correct system set-up before the final cabling.

STEP	Description	Notes
1	Power supply voltage	The CDD6 door drive is directly supplied from the single-phase line Voltage at 230Vac. The 220/24V transformer is no more necessary, and can be removed. Switch off the power supply of the door drive, then apply the power supply cable for the CDD6, present in the door drive box.
2	I/Os	Remove the previous connections from the door drive to be replaced, and follow the next instructions to connect all the I/Os to the CDD6.

The door operator with magnetic switches consists in 4 (or 3 in case the door open limit switch is not installed) magnetic devices that indicate the door position reference, based on the switch status. As reported in the next table, the door final position switches (LA and LC) are open when the related position is reached. The deceleration switches RA and RC, are closed when the related deceleration is active.
The following picture shows the schematic structure of the door operator with the magnetic switches.



Check with a multimeter the magnetic switches input voltage, in the specific door positions:

Magnetic Switch	Door OPEN	Door in MIDDLE position	Door CLOSED
LC (39-15) (measure between 39 e 38)	CLOSED (24Vdc)	CLOSED (24Vdc)	OPEN (0Vdc)
RC (42-15) (measure between 42 e 38)	OPEN (0Vdc)	OPEN (0Vdc)	CLOSED (24Vdc)
RA (41-15) (measure between 41 e 38)	CLOSED (24Vdc)	OPEN (0Vdc)	OPEN (0Vdc)
LA (40-15) (measure between 40 e 38)	OPEN (0Vdc)	CLOSED (24Vdc)	CLOSED (24Vdc)

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The below image shows the typical system structure of the car door, with the specific connections to the door and lift controllers.

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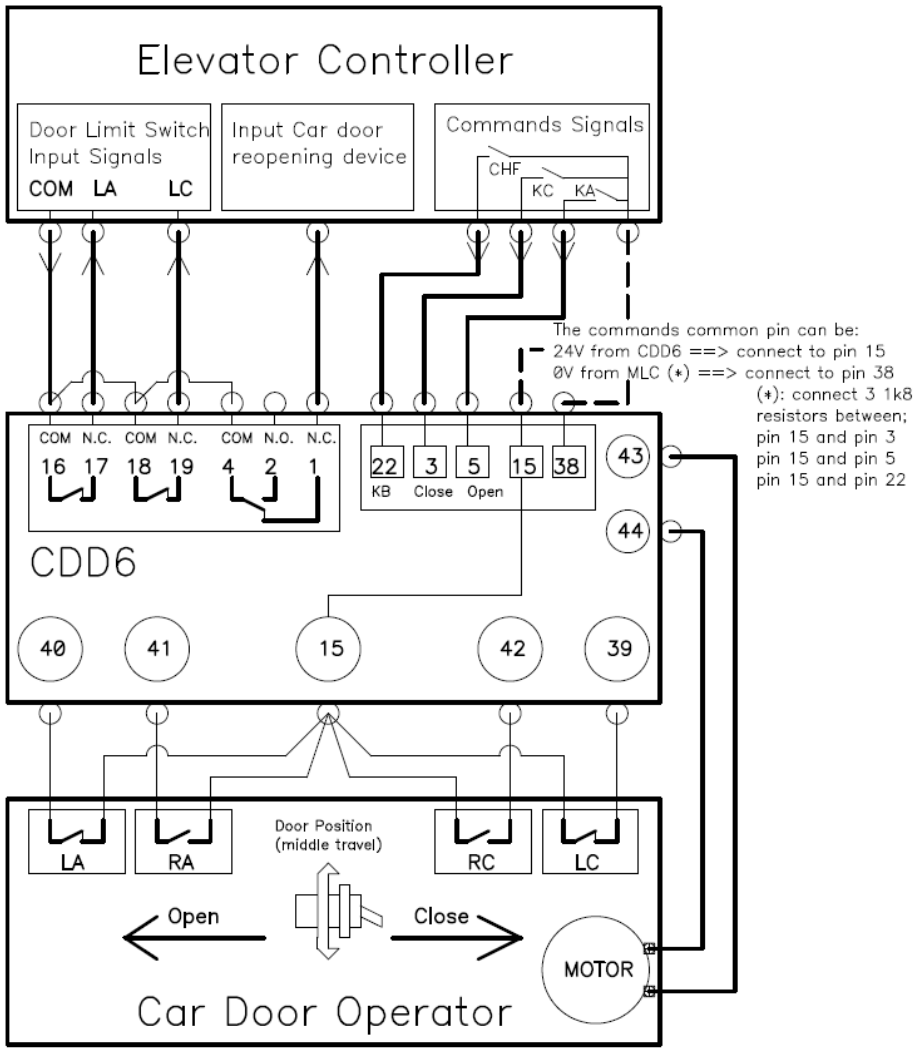
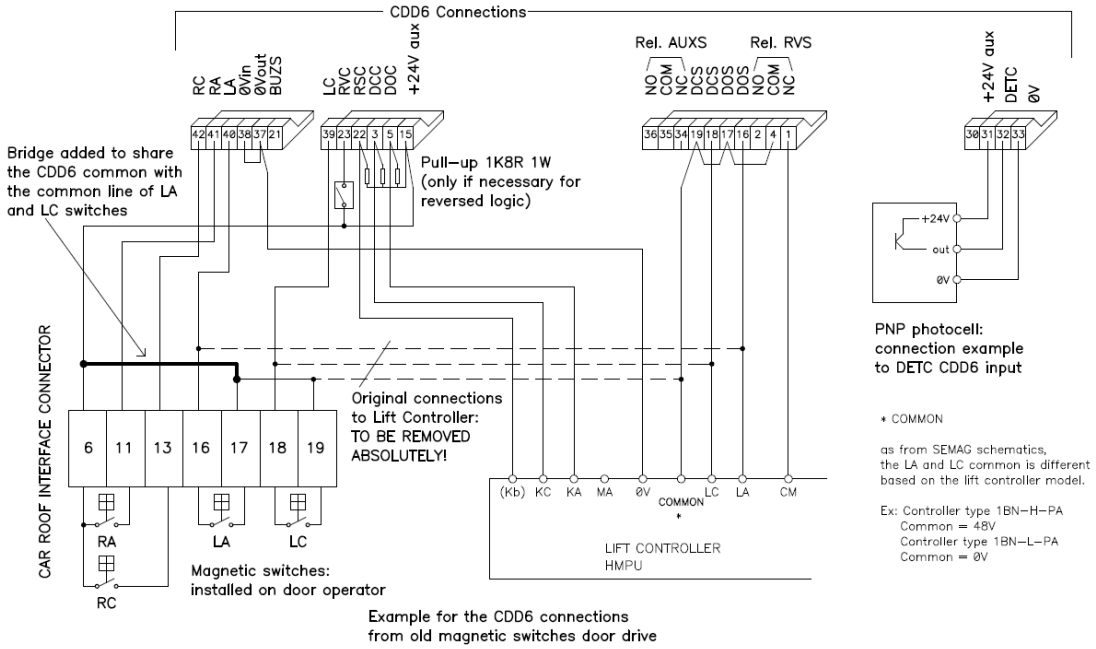


In case the door limit switches (LA and LC) are connected directly to the Lift controller, it is VERY IMPORTANT the they MUST be connected to the CDD6, as reported in the previous table and in the next paragraph. The specific output of the CDD6 door drive must then be connected in the same position of the MLC interface connector plug. In the next pages, specific instructions are reported, for the different old door drives replacement, compatible with CDD6.

Cabling instruction

To adapt the previous cabling to the CDD6 door drive, few simple operations need to be executed, to implement full replacement without any risk of anomalous behavior.

The following picture shows a simple connection schematic per the interface between CDD6, magnetic switches and lift controller. This description is related to a typical situation of the terminal connections on the car roof. The tables in the next pages show the sequence of task to execute.



Step	Description	Notes
	Output signals from door drive to lift controller	
1	Common voltage line connection for CDD6 inputs	In some cases, the common voltage lines for the magnetic switches and for the commands from lift controller are different. If so, it is necessary to use the auxiliary 24Vdc line from the CDD6 (pin15) to supply ALL the magnetic switches (LC, RC, RA, LA) closing the 37-38 bridge for the 0Vaux and 0Vin connection, or to use the common line from the lift controller for both magnetic switches and operating commands (bridge 37-38 has to be removed). It is NOT possible to use both common lines, without the risk to damage door drive or lift controller. The CDD6 inputs work with input voltage from 8Vdc until 32Vdc.
2	Remove the original connections for LA, LC and common line to the MLC	If the original connection of LA and LC switches goes directly to MLC connector, they need to be moved and connected to the CDD6, then proceed with step 2. CDD6 needs the inputs from LA and LC switches, to optimize the parking phase management, and repeats the LA and LC status through its output for the lift controller use.
3	Connect the LA and LC outputs from CDD6 to the connector for the lift controller, in the same position of point 1	Connect the common voltage line from MLC to pins 17 and 19 of the CDD6 output connector. Then connect CDD6 pin16 (LA) of to pin16 of MLC connector, and CDD6 pin18 to pin18 of the MLC connector.
4	Move, in case they are present, the connection of IM output from old door drive to CDD6 IM output	Connect the common voltage line from to pin4 of the CDD6 output connector, then pin1 (N.C. contact) or pin4 (N.O contact) to MLC reversing signal.
	Input signals from magnetic switches to CDD6	
5	Use the CDD6 24Vdc common line for the LA, LC, RA, RC signals from magnetic switches	Connect the pin15 from CDD6 to the common line of the magnetic switches.
6	Connect the RA, RC, LA, LC contacts from magnetic switches to the specific CDD6input	Connect each signal to the correspondent CDD6 input: RA in pin 41 ; RC in pin 42 ; LA in pin 40 ; LC in pin 39
	Operating commands from MLC to CDD6	
7	Connect the KA, KC, KB commands to the specific CDD6inputs DOC, DCC, RSC	Move the wires connection from old door drive to CDD6
8	In case the command logic is reversed, apply a pull-up resistor for every CDD6 input	CDD6 can be configured for reverse command logic, setting parameter P99=3, but it is necessary to apply a pull-up resistor (1k8R 1W) for each connected command

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Upgrade from ASC 10/20, ADC10/11, SEM10/11, LMDC2010/2011, F28-B, F29 -B, F28C, F29C or Digidoor

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The following table shows the connections from these drives to CDD6

ASC 10/20 ADC 10/11 LMDC2010 LMDC2011 F28-B F29-B F28-C F29-C	Digidoor	Pin Function	CDD6 pin
Controller connectors			
1	1	Reversing relay, N.C. contact	1
2	2	Reversing relay, N.O. contact	2
3	3	Closing command	3
4	4	Reversing relay, common contact	4
5	5	Opening command	5
6	6	Magnetic switches common line	15
7	7	24Vac from transformer	Not connected
8	8	24Vac from transformer	Not connected
9	9	Motor connection	43
10	10	Motor connection	44
11	11	Opening deceleration switch input	41
12	12	-	Not connected
13	13	Closing deceleration switch input	42
14	14	-	Not connected
15	15	CDD6 24Vdc common line	15
Connections to MLC (Main Lift Controller)			
16	NOT PRESENT	LA relay door open limit signal to MLC	16
17	NOT PRESENT	LA relay door open limit signal to MLC	17
18	18	LC relay door closed limit signal to MLC	18
19	19	LC relay door closed limit signal to MLC	19
Magnetic switches			
16	NOT PRESENT	LA, door open limit switch	40 (NOT CONNECTED for Digidoor)
17	NOT PRESENT	Common line for LA switch	15 (NOT CONNECTED for Digidoor)
18	18	LC, door closed limit switch	39
19	19	Common line for LC switch	15
11	11	RA, opening deceleration switch	41
15	15	Common line for RA switch	15
13	13	RC, closing deceleration switch	42
15	15	Common line for RC switch	15

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Door set-u p, Learning and Functional tests

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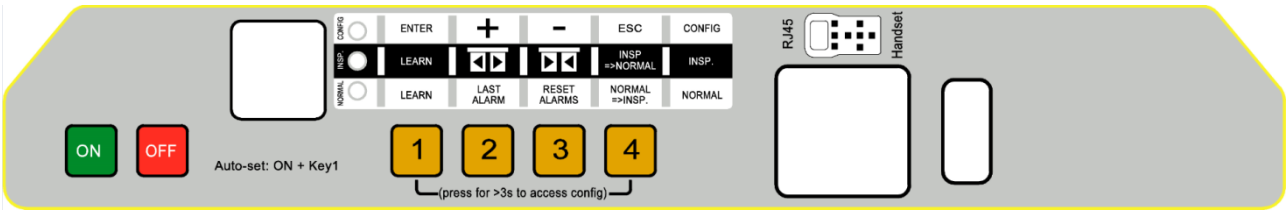
Once the physical installation phase described in the previous paragraph is completed, it is possible to proceed with the power ON of the device and its configuration. In case of problems during the execution of the phases, please refer to user manual. Refer to previous paragraph **Errore. L'origine riferimento non è tata trovata.**for the front panel use.



STEP	Operation	Description	Notes
1	**Power supply test**	Connect the main power supply. Press ON key and checks the front panel display as indicated. Then press OFF key.	88 followed by --
2	**AUTOSET execution**	Put the door panels near to the panels closed position (gap<10cm), then press and **keep pressed key** 1 on the door drive front panel. Press ON key, checking that "SL" is shown on the door drive display, **then release key** 1. The door starts the auto-set procedure detecting: - the closing rotation - the magnetic switches activation sequence, during the door opening movement - Self-calculation of accelerations and decelerations, based on current position of the installed magnetic switches. In case the of errors or alarms, proceed with the checks suggested in the user manual. **Er1: the initial door position is wrong, please check the door panels start from closed position, or see Er14** **Er3: obstacle present** **Er10: detector interruption (light curtains, photocells)** **Er14: wrong magnetic switches, please check magnetic switches correct connections for LC RC RA LA** The learning phase is completed	 NORMAL, INSP. and CONFIG LEDS are all ON Display: SL fixed Display in case or error: Er alternate to the error code In case of alarm AL alternate to the alarm code Display: oP fixed

<table>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>Door operator configuration (check & set)</td><td>Check and Configure the parameters related to the installed door operator:
<table>
<tr><td>P90</td><td>CHECK or SET</td><td>Installed motorization:
00 = self-recognized
05 = F28x/LMDC2010 system
06 = F29x/LMDC2011 system
07 = DIGIDOOR 1Nm system
08 = DIGIDOOR 2Nm system</td></tr>
<tr><td>P91</td><td>CHECK</td><td>Recognized Motor:
00 = self-learning not yet executed
XX = recognized index (refer to P90)</td></tr>
<tr><td>P99</td><td>SET</td><td>LC commands logic
0 = H active and RSC forced closing
1 = L active and RSC reduced speed
2 = H active and RSC reduced speed
3 = L active and RSC forced closing
4 = CAN BUS</td></tr>
</table></td><td>Refer to specific paragraph for the information about access to Configuration Mode.</td></tr>
<tr><td>4</td><td>Inspection mode</td><td>Put CDD6 in inspection mode by pressing key 4 and check the INSP. LED is ON.</td><td> 

INSP. LED ON</td></tr>
<tr><td>5</td><td>Speed Profiles check in Inspection mode</td><td>Press continuously key 3 to execute the door closing with normal speed, until the door is completely closed.
Press continuously key 2 to execute the door opening with normal speed, until the door is completely opened.

In case it is necessary to tune the speed profiles, please refer to the user manual or act on the following parameters:
<table>
<tr><th>Opening</th><th>Closing</th><th>Description</th></tr>
<tr><td>P-A5</td><td>P-C5</td><td>Low start speed</td></tr>
<tr><td>P-A6</td><td>P-C6</td><td>High speed</td></tr>
<tr><td>P-A7</td><td>P-C7</td><td>Low final speed</td></tr>
<tr><td>P-AA</td><td>P-CA</td><td>Deceleration limit</td></tr>
<tr><td>P-AB</td><td>P-CB</td><td>Acceleration limit</td></tr>
</table></td><td>Display:
CL blinking
CL fixed

oP blinking
oP fixed</td></tr>
<tr><td>6</td><td>Functional check in Normal mode</td><td>Check the door movements with the door drive in NORMAL mode (press key 4 if INSP mode active, so the door works with lift controller commands):
- Opening and Closing movements
- Reversing for obstacle in closing direction
- Reversing from light curtains or optical sensor</td><td> 

NORMAL LED ON</td></tr>
</table>

Installation trouble-shooting

The installation sequence previously reported describes all the steps that have to be executed to operate a correct and complete set-up of the door system. In case of issues, or if anomalous behaviours happen during the installation, please refer to the user manual, paragraph “Troubleshooting (FAQ)”. For any alarms, please refer to the user manual, paragraph “Alarms”.