

<b>Creation date</b>	10/11/06	<b>Edition</b>	R.Ruiz	Dept. Electrónica
<b>Modification date</b>		<b>Revision</b>	J. Rubio	Dept. Técnico-Comercial
<b>Version</b>	1	<b>Approval</b>		
<b>Title</b>	VVVF Programming console			

## VVVF PROGRAMMING CONSOLE

V124



**With the console we can achieve three main objectives:**  
**1.-To see** the VVVF parameters values.  
**2.-To detect** possible mistakes in the system and the signals coming from the lift control.  
**3.-To modify** the internal program parameters changing the different opening and closing ramps.

### 1.- TO SEE the speeds and the re-opening safety effort programmed.

We connect the console by the "SERIAL PORT" connector.

Pressing the "OPEN" / "CLOSE" keys the screen will show the opening and closing maximum speeds mm/s.

Pressing the "SAFETY" key we will see the effort of the programmed re-opening in case of obstruction reflected in a scale from 4 to 15.

### 2.- TO DETECT

It will show **SOFT RELEASE 4036** according to the software version of the VVVF, and it will activate the information and parameters of this version.

Pressing the **TEST** and **ENTER** keys the screen will show the TEST MENU:

**SUPPLY VOLTAJE 230V**

This indicates the rectified tension supply, and it informs if the protection fuse is blown.

**Note: Press or to move up/down parameters by parameter.**

**MOTOR CURRENT** It will show the motor current.

**ACTIVE ALARM** Alarm code if an error is detected. The alarm code references are:

**00 -**

1- Driver	2- Bl.Open	4- Bl.Close	8- Friction	16- Temperature	32- Autoadjust	64- Encoder
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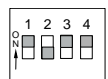
**DOOR POSITION** Door position in centimeters from the closed door position. So, when **0** the door is opened it will show the clear entrance.

*(Clear entrance plus 7 pulses if the door has a skate for automatic landing door. For example a door with a clear opening of 800mm will show 87 pulses with the door opened.)*

It is useful to check the encoder performance.

**TEST PHOTOCCELL** It informs about the photocell status.  
**BLOCKED / FREE**

**PROGRAMMING DIP** It informs about the DIL switches programming.  
**0 1 0 1** "0" if OFF mode and "1" if ON mode.



It must be the same as the DIP-switch programmed. If not, there must be a problem with the component, the socket connection or the control.

From left to right, the information offered is the following:

1) 1 or 2 Inputs	2) Automatic/Semiautomatic	3) Left-Central / Right	4) Master / Slave
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**OPTIONS**  
**8 7 6 5 4 3 2 1** It informs about the status of some options (see them in page 4):  
"0" if option not activated (OFF) and "1" if activated (ON).

8	7	6	5	4	3	2	1
Parking mode	Aljo door	Compact reduced	Close priority	Robusta door	2 motors	Photocell timer	Hong Kong Firefighting

**OPTIONS 2**  
**8 7 6 5 4 3 2 1** It informs about the status of some extra options (see them in page 4):  
"0" if option not activated (OFF) and "1" if activated (ON).

8	7	6	5	4	3	2	1
NA	NA	NA	NA	NA	NA	CE8P	V30F

**INPUTS**  
**0100 0000** It shows if the control inputs connected to the VVVF are activated or not.  
"0" if input not activated (OFF) and "1" if activated (ON).

By means this screen we can check if the door operator works correctly with the lift controller.

From left to right, the information offered is:

Close	Open	Re-open	Test	Encoder	Slow closing	Fast closing	Autoadjustment
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**OUTPUTS**  
**0100 0000** It shows if any output of the VVVF is activated.  
"0" if output not activated (OFF) and "1" if activated (ON).

From left to right, the information offered is:

Opened	Closed	Photocell	Obstruction	Status	-	-	-
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**FUNCTION**  
**1** Identify the movement of the door:  
**0** Closed **1** Opening **2** Opened **3** Closing **4** Middle opened

<b>SHORTCIR.CYCLES</b>	No. times over current protection activated.(Short circuit or motor blocked)
<b>PHOTOCELL FAULT</b>	No. times the photocell has been obstructed more than 2 minutes.
<b>BLOCKAGE CYCLES</b>	No. times the door has been blocked at opening.

The next field are only activated for the VVVF-4 control version:

<b>TEMPERATURE</b>	Temperature in the VVVF power rectified area.
<b>COMP. CLOSE</b>	Close compensation factor of the adaptive process.
<b>COMP. OPEN</b>	Open compensation factor of the adaptive process.
<b>SUPPLIER CODE</b>	Supplier identification code.
<b>SERIAL NUMBER</b>	Identification serial number for each unit.
<b>HARDWARE VERSION</b>	Hardware version of the VVVF control
<b>LOT REF.</b>	Lot number identification.
<b>LEARN CYCLES</b>	No. learning cycles made by pressing the autoadjustment button.
<b>REOPEN CYCLES</b>	No. re-open cycles.
<b>HOURS</b>	No. working hours.
<b>No.MAIN FAULTS</b>	No. connections to the mains supply or blackouts suffered.
<b>No.OVERTEMPERATU</b>	No. overtemperature protection activated.
<b>FRICTION</b>	Friction value detected when making the autoadjustment function.

<b>OPEN N-1</b>	Clear entrance detected one autoadjustment before.
<b>OPEN N-2</b>	Clear entrance detected two autoadjustments before.
<b>OPEN N-3</b>	Clear entrance detected three autoadjustments before.

**TOTAL CYCLES** No. cycles done by the door.

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### 3.- REPROGRAMMING.

To enter into the programming menu press the **PROG** key and **ENTER**  
It will show **SOFT RELEASE** according to the VVVF software version.

**NOTE:**

To change the **PARAMETERS** press **ENTER** and   to change the **VALUES**.  
To go back the previous parameter press <- key.

For example:

PARAMETER	VVVF 4+		2 Motors	Motor 125V	VVVF3	VVVF4
	Side	Central				
OPEN LENGTH	2	2				
CLOSE LENGTH	3	4				
OPEN_ACCEL.	10	8				
CLOSE ACCEL.	10	6				
OPEN BRAKE	8	9				
CLOSE BRAKE	4	5				
APROX SPEED	70	70				
0 VOLTAGE	55	55	50	40	55	65
V/F OPEN	20	20	15	8	27	27
V/F CLOSE	15	15	10	6	19	19
HOLD TORQUE	45	45	40	25	45	55
OPEN SKATE SPEED	100	100				
LENGTH SKATE	7	7				



There are different possibilities depending on the doors weight, number of motors, mechanical conditions, skate modifications, etc. The particular conditions leads to vary the standard parameters.



Some parameters are only available in some software versions (newer options in newer soft).



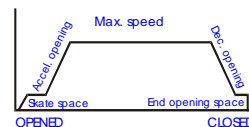
Take always in mind that you have to protect the modified parameters against the autoadjustment function that will fix the standard ones for the type of door.

**See the complete parameters list and descriptions in the next page:**

(Some of them are only available with the newest software versions).

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**PARAMETERS**  
(standard values)



<b>CLEAR ENTRANCE 087</b>	<i>It shows the door's clear entrance.</i>	(cm)
<b>OPEN LENGTH 002</b>	<i>The space at the final opening at slow speed.</i>	(in cm)
<b>CLOSE LENGTH 004</b>	<i>The space at the final closing at slow speed.</i>	(in cm)
<b>OPEN ACCELERATION 010</b>	<i>The opening acceleration..</i>	(in mm/s <sup>2</sup> )
<b>CLOSE ACCELERAT. 010</b>	<i>The closing acceleration.</i>	(in mm/s <sup>2</sup> )
<b>OPEN BRAKE 008</b>	<i>The opening deceleration.</i>	(in mm/s <sup>2</sup> )
<b>CLOSE BRAKE 004</b>	<i>The closing deceleration.</i>	(in mm/s <sup>2</sup> )

**END SPEED 070** *The approximation speeds at opening/closing movements.*  
Recommended value from 60...to...100 mm per second.

<b>0 VOLTAGE 055</b>	<i>The Inverter Voltage reference.</i>
<b>V/F OPEN 020</b>	<i>The Voltage/Frequency ratio at opening.</i>
<b>V/F CLOSE 015</b>	<i>The Voltage/Frequency ratio at closing.</i>



*We recommend to do not modify these 3 parameters without contact with our technical department, because it could damage the inverter. (See table for doors with 2 motors or very heavy doors).*

<b>HOLD TORQUE OPEN 045</b>	<i>The voltage applied to the motor to keep the door opened. (V)</i> Change this value just enough to maintain the door in opened position.
<b>H. TORQUE CLOSE 045</b>	<i>The voltage applied to the motor to keep the door closed. (V)</i>
<b>OPEN SKATE SPEED 100</b>	<i>The speed applied to the motor at opening. (Up to 200 mm/s).</i>
<b>LENGTH SKATE 007</b>	<i>The required space to open the skate. (in cm)</i> Do not modify this value, as long as the required space to open the skate is not mechanically modified.

**EXTRA PARAMETERS in the ADVANCED MODE\*** (only available with software newer than TEC4007).

<b>GEAR RATIO 10:N 10</b>	<i>Gear ratio when special cogged pulley is used (Ratio in tenths 10:N)</i>
<b>No.PAIR POLES 3</b>	<i>Nº. of pair poles. (For example 3 pair for a 6 poles motor)</i>
<b>SPEED LIM.OPEN 2000</b>	<i>Speed limit at opening. (mm/s)</i>
<b>SPEED LIM.CLOSE 2000</b>	<i>Speed limit at closing. (mm/s)</i>
<b>MIN.VOLT.OPENING 50</b>	<i>Minimum voltage applied at the final opening movement (V)</i>
<b>SKATE VOLTAGE 60</b>	<i>Voltage applied at the dragging skate movement. (V)</i>

Variables to be Disable or Enable:

<b>PHOTOCELL TIMER</b>	<i>This bit enables or disables the Photocell Timer timeout performance.</i>
<b>HK FIREFIGHTING</b>	<i>Firefighting mode in some countries to run in slave mode in the startup.</i>
<b>2 MOTORS</b>	<i>Special conditions for 2 motors door system.</i>
<b>ROBUSTA DOOR</b>	<i>Special conditions for special heavy doors.</i>
<b>CLOSE PRIORITY</b>	<i>Priority at closing if open and close signals applied at the same time.</i>
<b>COMPACT REDUCT</b>	<i>Special conditions for a Compact door system with reduction gear.</i>
<b>ALJO DOOR</b>	<i>Special conditions for a Aljo door system.</i>
<b>PARKING MODE</b>	<i>Activates the parking mode with door closed (no motor force).</i>
<b>V-30F</b>	<i>Activates the V-30F mode with signals de-activated with voltage.</i>
<b>CE8P</b>	<i>Activates the reduced with voltage.</i>
<b>LAST ALARM</b>	<i>Code of the last alarm activated (see codes in TEST MENU).</i>

**PROTECTION** *It protects the modified parameters.*

**NO** : means that a new auto adjustment would automatically bring back all the standard parameters adjusted with the door, losing all the modifications done with the console.

**PARTIAL** : this protection will only protect the inverter parameters : 0 VOLTAGE, V/F OPEN and V/F CLOSE.

**FULL** : to save all the modifications.

**SAVE YES / NO** *It saves the changed parameter values.*