Instructions
DOC-FE.IE.IN.014156.EN
Fermator programming tool
Version: 0.2

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Three main objectives can be achieved with the programming tool:

1.-**To see** the value of the parameters and options.
2.-**To detect** possible errors in the system and the signals coming from the lift controller.
3.-**To modify** the internal program parameters changing the different opening and closing movement curves.

Connect the programming tool to the circuit *"SERIAL PORT"* connection.

- The WAGO connector ref. 231-104/026-000 is to connect to the VF3, VF4, VF4+.
- The phone jack connector (RJ-11) is to connect to the VF5, DC - 24 V.
- The WAGO connector ref. 734-104 is to connect to the VF6.

Once the tool is connected it is supplied by the circuit and it will show its software version **Version : 0.9** and the Software release of the circuit connected to **V. VF4+: 4046/01**.

There are 3 main menus **Test**, **Prog** and **Confi** with different submenus depending on the circuit connected. The submenus are available pressing **F1**, **F2** and **F4**.

To select the submenu press the **OK** key, pressing this key the first parameter will be shown.

Press the **ESC** key to return to the previous screen or press the **MENU** key to return to the main screen.

Pressing the **Help** option the screen will show a short explanation about the parameter or option selected.

Some parameters have the **Graph** option which shows a graphic of the parameter selected (Supply Voltage, Temperature, …).

The different parameters and options are explained in the next pages.

Some parameters and options are only available with some circuits or software versions.

The **Test** submenus are:

Test Menu	Motor Menu	Door Menu	Counters Menu	Information Menu
Supply Voltage	Speed	Clear Opening	Short-circuits Number	Software Version
Battery Voltage	Voltage	2 Motors	Photocell Faults	Hardware Version
Alarm	Motor Current	Parking Mode	Blockage cycles	Serial Number
Last Alarm	Door Position	Motor Type	Autoadjustment cycles	Test Data
Photocell Test		Car Door Lock	Reopen cycles	
Programming			Hours	
Programming 2			Grid faults	
Inputs			Over temperature Number	
Outputs			Total cycles	
Function				
Temperature				
Friction				
Open Compensation				
Close Compensation				

The **Prog** submenus are:

Programming Menu	Control Menu	Options Menu	Settings Menu
Open Length	Test	Photocell Timer	Protection
Close Length	Autoadjustment	HK Firefighting	Save parameters
Open Acceleration	Potentiometers	Close Priority	
Close Acceleration	Open Speed SW	Compact Reduction	
Open Deceleration	Close Speed SW	Aljo Option	
Close Deceleration	Safety Force SW	V-30F	
Proximity Speed	Open Speed HW	CE8P	
0 Voltage	Close Speed HW	NC Reopen	
V/F Open	Safety Force HW	Voltage Protection	
V/F Close		LB Door	
Open Maintenance Torque		125V Door	
Close Maintenance Torque		USA	
Skate Speed		EUNAP	
Skate Length		Anti-Banging	
Motor Poles Number		Robust Modernization	
Open Limit Speed		DPM System	
Close Limit Speed		Electronic Car Door Lock	
Open Limit Speed USA			
Close Limit Speed USA			
Minimum Voltage Open			
Skate Voltage			
Parking Delay			
Minimum Voltage Close			
Skate Minimum Voltage			
Proximity Speed Open			
Proximity Speed Close			
Close Skate Length			

The **Confi** submenus are:

Language	Light and contrast	Save configuration	CAN Baudrate
Español	Lightness		Baudrate 500kbps
English	Contrast		Baudrate 250kbps
Deutsch			Baudrate 125kbps
Français			
Polski			
Portugués			
Italiano			

The Test menu

Press ↑ or ↓ to move up/down parameters by parameter.

Test Menu:

Supply Voltage	It indicates the voltage supply in AC or DC.
Battery Voltage	It indicates the battery tension in DC.
Alarm	Alarm code if an error is detected. The alarm code references are:

Not alarm	The circuit is working properly.
Driver	Circuit internal problem, component/s damaged.
Bl. Open	The open block alarm is activated when the door is obstructed while it is opening.
Bl. Close	The close block alarm is activated when the circuit works in slave mode and the door is obstructed while it is closing.
Friction	The error is activated if, while the autoadjustment is performed, the speed is reduced more than 50% due to mechanical friction.
Temperature	The module temperature is higher than 70°C.
Autoadjust	Problems with the motor detection.
Encoder	An encoder component damaged or the cable improperly connected or damaged.

Last Alarm	Last alarm activated.
Photocell Test **BLOCKED / FREE**	It informs about the photocell status.
Programming **0 1 0 1**	It informs about the DIP switch programming. “0” if OFF mode and “1” if ON mode.
Programming 2 **0 1 0 1**	It informs about the CAN DIP switch programming. “0” if OFF mode and “1” if ON mode.
Inputs **0 1 0 0 0 0 0 0**	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	Floor level	Autoadjustment

Close	Close signal activated
Open	Open signal activated
Re-open	Re-open signal activated
Test	Test push-button activated
Encoder	Encoder pulse signal
Slow closing	Slow closing signal activated
Floor level*	Floor level signal activated
Autoadjustment	Autoadjustment push-button activated

***Fast closing** for VF3.

Outputs **0 1 0 0 0 0 0 0**	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	-	-	-

Opened	Door opened
Closed	Door closed
Photocell	Photocell blocked
Obstruction	Door obstructed
Status	Status bit

Function	Identify the status of the door (Door closed, Door opened, Closing door, ...)
Temperature	Temperature in the power module area (ºC).
Friction	Friction value detected during the autoadjustment function on a scale of 0-100. Frictionless door when this parameter is 100.
Open Compensation	Compensation factor of the opening brake distance
Close Compensation	Compensation factor of the closing brake distance

Motor Menu:

Speed	Shows the motor speed in mm/s.
Voltage	It is the tension that the circuit applies to the motor.
Motor Current	The value displayed relates to the approximate output current (mA).
Door Position	Shows the position of the door in cm, indicating the zero point with the door closed and the clear opening + skate length with the door open.

Door Menu:

Clear Opening	It shows the door's clear opening (cm).
2 Motors	Doors with 2 motors (automatic detection during the autoadjustment).
Parking Mode	Door without CDL (automatic detection during autoadjustment). Activates the motor sleep mode with door closed and without closing signal. Activates the motor sleep mode after 10 minutes with door closed and with closing signal. Disabled applies the holding torque to the motor.
Motor Type	Indicates the motor connected to the circuit.
Car Door Lock	Door with CDL (automatic detection during autoadjustment).

Counters Menu:

Short-circuits	Number of times the over current protection has been activated. By default, after the functional test is passed its value is 1.
Photocell Faults	Number of times the photocell has been obstructed.

The main reasons of the photocell failure are:

- Photocell blocked for two minutes (Option Photocell Timer activated).
- Photocell blocked at the beginning of the opening.

Blockage cycles	Number of times the door has been blocked at opening.
Autoadjustment Cycles	Number of learning cycles made by pressing the autoadjustment button.
Reopen cycles	Number of re-open cycles.
Hours	Number of working hours.
Grid faults	Number of connections to the mains supply or blackouts suffered.
Over temperature	Number of over temperature protection activated (>70ºC).
Total cycles	Number of cycles done by the door.

Information Menu:

Software Version	Circuit software version.
Hardware Version	Circuit hardware version.
Serial Number	Identification serial number for each unit.
Test Data	Date of manufacture.

The PROG menu:

Press ↑ or ↓ keys to move up/down parameters by parameter.
Press ← or → keys to change the value of the parameters or enable/disable an option.

⚠ It's recommend to do not modify parameters without clear comprehension about their influence.

Programming Menu:

Open Length	The space at the final opening at slow speed.	(cm)
Close Length	The space at the final closing at slow speed.	(cm)
Open Acceleration	The opening acceleration.	(dm/s^2)
Close Acceleration	The closing acceleration.	(dm/s^2)
Open Deceleration	The opening deceleration.	(dm/s^2)
Close Deceleration	The closing deceleration.	(dm/s^2)
Proximity Speed	The approximation speeds at opening/closing movements.	(mm/s)
0 Voltage	Reference voltage at low speed.	(V)
V/F Open	The Voltage/Frequency ratio at opening.	
V/F Close	The Voltage/Frequency ratio at closing.	
Open Maint. Torque	The voltage applied to the motor to keep the door opened.	(V)
Close Maint. Torque	The voltage applied to the motor to keep the door closed.	(V)
Skate Speed	Skate speed at opening and closing.	(mm/s)
Skate Length	The required space to open the skate.	(cm)
Motor Poles Number	Number of pair poles.	
Open Limit Speed	Speed limit at opening.	(mm/s)
Close Limit Speed	Speed limit at closing.	(mm/s)
Open Lim. Speed USA	Speed limit at opening (USA option).	(mm/s)
Close Lim. Speed USA	Speed limit at opening (USA option).	(mm/s)
Min. Voltage Open	Minimum voltage applied at the opening.	(V)
Skate Voltage	Voltage applied at the skate movement.	(V)
Parking Delay	Delay time for the motor sleep mode activation (EUNAP option enabled).	(s)
Min. Voltage Close	Minimum voltage applied at the closing.	(V)
Skate Min. Voltage	Minimum voltage applied at the skate movement.	(V)
Prox. Speed Open	The approximation speeds at opening movement.	(mm/s)
Prox. Speed Close	The approximation speeds at closing movement.	(mm/s)
Close Skate Length	The required space to close the skate.	(cm)

Control Menu:

Test	Makes a cycle to verify proper operation.
Autoadjustment	Makes an autoadjustment to recognize the door.
Potentiometers	Mode selection for changing the opening speed, the closing speed and the safety force.

Software	The parameters can only be changed by the Fermator programming tool.
Hardware	The parameters can only be modified by the circuit physical potentiometers.

Open Speed SW	Maximum speed at opening in software mode.
Close Speed SW	Maximum speed at closing in software mode.
Safety Force SW	Sensitivity or obstruction maximum force to cause a reopening in software mode.
Open Speed HW	Maximum speed at opening in hardware mode (only read).
Close Speed HW	Maximum speed at closing in hardware mode (only read).
Safety Force HW	Sensitivity or obstruction maximum force to cause a reopening in hardware mode (only read).

Options Menu:

Photocell Timer	Intelligently timer photocell in case of obstruction (the photocell is disabled after two minutes permanently blocked).
HK Firefighting	The first opening operation after a reset it is totally slave (according to regulations in Asian countries).
Close Priority	Priority at closing in case that open signal and close signal are activated at the same time.
Compact Reduction	Special conditions for Compact Reduct models.
Aljo Option	Enabling the LED of closed door during the movement of the skate.
V-30F	Logic negation in the input signals. The signals are deactivated with voltage (Open, close and slow close).
CE8P	The emergency circuit will not open the door if the closing signal is activated.
NC Reopen	Reopening signal activation through NC contact (normally closed).
Voltage Protection	Protection of the voltage parameters against automatic changes (Asynchronous motor).
LB Door	Special Conditions for Linear Bus Model.
125V Door	Special conditions for 125V motor model (VF powered at 125V).
USA	Special conditions according to USA regulations.
EUNAP	Activates the motor sleep mode with door closed and without closing signal after a time period (DELAY PARKING). If the CAR DOOR LOCK option is enabled, automatically is activated the ALJO OPTION.
Anti-Banging	Special conditions for doors with motor asynchronous and reduction.
Robust Modernization	Special Conditions for Robusta door model with reduction.
DPM System	Activation of the obstruction LED after passing a third part of the clear entrance.
Electronic CDL	When a power failure occurs while the door is fully closed, the VF5+ detects the voltage drop and opens the CDL if the cabin is on the floor level.

Settings Menu:

Protection	Indicates the protection level of the modified parameters.

NOT	An autoadjustment would set the default parameters, losing all the modifications done.
PARTIAL	This protection will only protect the voltage parameters (with Voltage Protection option enabled).
FULL	This protection will protect all the parameters.

Save parameters	Save all the modifications.

Press **OK** key to save all the modifications done.

The CONFI menu:

Press ↑ or ↓ keys to move up/down parameters by parameter.
Press ← or → keys to change the value of the parameters or enable/disable an option.

Language:

Español
English
Deutsch
Français
Polski
Portuguès
Italiano

Light and contrast:

Lightness	Screen lightness could be modified in a range 0 to 20.
Contrast	Screen contrast could be modified in a range 0 to 20.

Save configuration:

Save configuration	Save the CONFI menu modifications.

CAN Baudrate:

Baudrate 500kbps	CAN communication configured to 500 kbps.
Baudrate 250kbps	CAN communication configured to 250 kbps.
Baudrate 125kbps	CAN communication configured to 125 kbps.

Parameters list for VF4+ drivers (standard values):

Parameter	VF4+	
	Telescopic	Central
OPEN LENGTH	2	2
CLOSE LENGTH	3	3
OPEN ACCELERAT.	10	8
CLOSE ACCELERAT.	6	6
OPEN DECELERAT.	8	8
CLOSE DECELERAT.	4	5
PROX. SPEED	70	70
0 VOLTAGE	55	55
V/F OPEN	20	20
V/F CLOSE	15	15
OPEN MAINT. TORQUE	45	55
CLOSE MAINT. TORQUE	50	45
SKATE SPEED	100	100
SKATE LENGTH	7	7
MOTOR POLES NBR	3	3
OPEN LIM. SPEED	700	700
CLOSE LIM. SPEED	400	400
MIN. VOLT. OPENING	70	70
SKATE VOLTAGE	70	70

Parameters list for VF5/VF6 drivers (standard values):

Parameter	VF5/VF6			
	Asynchronous motor		Motor PM	
	Telescopic	Central	Telescopic	Central
OPEN LENGTH	2	2	5	5
CLOSE LENGTH	3	3	5	5
OPEN ACCELERAT.	10	8	8	4
CLOSE ACCELERAT.	6	6	4	3
OPEN DECELERAT.	8	8	8	5
CLOSE DECELERAT.	4	5	4	4
PROX. SPEED	70	70	70	50
0 VOLTAGE	55	55	-	-
V/F OPEN	20	20	-	-
V/F CLOSE	15	15	-	-
OPEN MAINT. TORQUE	45	55	200	250
CLOSE MAINT. TORQUE	50	45	200	200
SKATE SPEED	100	100	80	80
SKATE LENGTH	7	7	21	21
MOTOR POLES NBR	3	3	-	-
OPEN LIM. SPEED	700	700	700	700
CLOSE LIM. SPEED	400	400	400	400
MIN. VOLT. OPENING	70	70	150	250
SKATE VOLTAGE	70	70	-	-
MIN. VOLT. CLOSING	-	-	100	100
SKATE MIN. VOLT.	-	-	120	120