Fermator

AUTOMATIC DOORS FOR LIFTS

ENG

User manual.
Automatic horizontal sliding car door.
Component: Fermator programming tool.

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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, 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 : 0.11** 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.

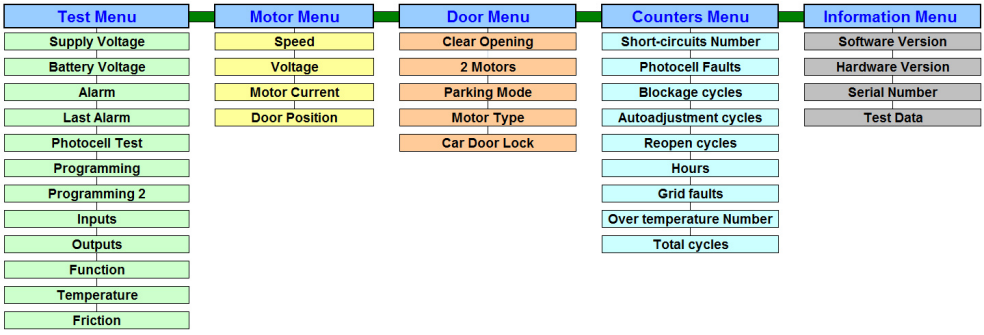
Pressing the **Help** ption the screen will show a short explanation about the parameter or option selected.

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.

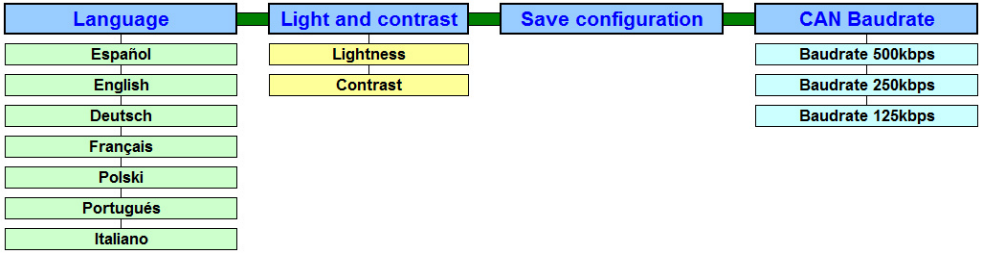
Some parameters and options are only available with some circuits or software versions.

The **Test** submenus are:



The **Prog** submenus are:

The **Confi** submenus are:



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.

Motor Menu:

Speed	Shows the motor speed in mm/s.
Voltage	It is the tension that the circuit applies to the motor (V).
Motor Current	The value displayed relates to the approximate output current (mA).
Door Position	Shows the position of the door in mm, 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 (mm).
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.

PROGRAMATION 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.

Programation Menu:

Open Length	The space at the final opening at slow speed.	(mm)
Close Length	The space at the final closing at slow speed.	(mm)
Open Acceleration	The opening acceleration.	(cm/s2)
Close Acceleration	The closing acceleration.	(cm/s2)
Open Deceleration	The opening deceleration.	(cm/s2)
Close Deceleration	The closing deceleration.	(cm/s2)
Proximity Speed	The approximation speeds at opening/closing movements.	(mm/s)
Voltage 0	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)
Open Skate Speed	Skate speed at opening.	(mm/s)
Skate Length	The required space to open the skate.	(mm)
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)
Min. Skate 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 Speed	Skate speed at closing.	(mm/s)
Close Skate Length	The required space to close the skate.	(mm)

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).

Option 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 125 V motor model (VF powered at 125 V).
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.

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 500 kbps	CAN communication configured to 500 kbps.
Baudrate 2.50 kbps	CAN communication configured to 250 kbps.
Baudrate 1.25 kbps	CAN communication configured to 125 kbps.

Parameters list for VF4+ drivers (standard values):

Parameter	VF4+	
	Telescopic	Central
Open Length	20	20
Close Length	30	30
Open Acceleration	100	80
Close Acceleration	60	60
Open Deceleration	80	80
Close Deceleration	40	50
Proximity Speed	70	70
Voltage 0	55	55
V/F Open	20	20
V/F Close	15	15
Open Maintenance Torque	45	55
Close Maintenance Torque	45(50*)	45(50*)
Open Skate Speed	100	100
Skate Length	70	70
Open Limit Speed	700	700
Close Limit Speed	400	400
Open Limit Speed USA	200	200
Close Limit Speed USA	200	200
Minimum Voltage Open	70	70
Skate Voltage	70	70

* For CDL, the Close Maintenance torque is increased 5 V.

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

Parameter	VF5/VF6			
	Asynchronous motor		Motor PM	
	Telescopic	Central	Telescopic	Central
Open Length	20	20	13	13
Close Length	30	30	13	13
Open Acceleration	100	80	80	40
Close Acceleration	60	60	40	30
Open Deceleration	80	80	80	50
Close Deceleration	40	50	40	40
Proximity Speed	70	70	70	50
Voltage 0	55	55	-	-
V/F Open	20	20	-	-
V/F Close	15	15	-	-
Open Maintenance Torque	45	55	20.0(25.0*)	20.0(25.0*)
Close Maintenance Torque	45(50**)	45(50**)	20.0(25.0**)	20.0(25.0**)
Open Skate Speed	100	100	80	80
Skate Length	70	70	56	56
Open Limit Speed	700	700	700	700
Close Limit Speed	400	400	400	400
Open Limit Speed USA	500	500	500	500
Close Limit Speed USA	300	300	300	300
Minimum Voltage Open	70	70	15.0(25.0*)	15.0(25.0*)
Skate Voltage	70	70	-	-
Minimum Voltage Close	-	-	10.0	10.0
Minimum Skate Voltage	-	-	12.0	12.0

* For Automatic horizontal sliding landing door, the Open Maintenance torque is increased 5 V and the Minimum Voltage Open is increased 10 V.

** For CDL, the Close Maintenance torque is increased 5 V.

Parameters list for VF5+ drivers (standard values):

Parameter	VF5+			
	Asynchronous motor		Motor PM	
	Telescopic	Central	Telescopic	Central
Open Length	20	30	20	30
Close Length	20	20	20	20
Open Acceleration	80	50	80	50
Close Acceleration	40	30	40	30
Open Deceleration	80	50	80	50
Close Deceleration	40	30	40	30
Proximity Speed Open	70	70	60	50
Proximity Speed Close	50	40	40	30
Voltage 0	50	50	50	50
V/F Open	20	20	20	20
V/F Close	15	15	15	15
Open Skate Speed	80	80	80	80
Close Skate Speed	60	60	60	60
Skate Length	50	50	50	50
Close Skate Length	40	40	40	40
Open Limit Speed	700	700	700	700
Close Limit Speed	400	400	400	400
Minimum Voltage Open	55.0	55.0	10.0	10.0
Minimum Voltage Close	35.0	35.0	10.0	10.0
Open Maintenance Torque	40.0(45.0*)	40.0(45.0*)	15.0(20.0*)	15.0(20.0*)
Close Maintenance Torque	40.0(45.0**)	40.0(45.0**)	15.0(20.0**)	15.0(20.0**)
Minimum Skate Voltage	65.0	65.0	10.0	10.0
Parking Delay	240	240	240	240

* For Automatic horizontal sliding landing door, the Open Maintenance torque is increased 5 V.

** For CDL, the Close Maintenance torque is increased 5 V.

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ATENTION: Any type of modification not reflexed in this manual, before testing it should be notified to our Technical Department.
TECNOLAMA accepts no responsability in the event of any damage produced in the equipment described in this manual and associated installation if the instructions given have not been followed.
TECNOLAMA reserves the rights to modify the products specifications of this technical brochure without any previous advise.

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