

**Model 3F-9100**

3-phase motor inverter  
(3F9100-1 / 3F9100-2)

At power-on the display shows the current software version number. After approximately 3 seconds, the display will show the status and the power relay will arm.

Status  
The status menu contains information about

- the commanded speed of the motor and
- a counter of how many times the door has opened
- the actual current consumption in Amperes
- errors on the control boards
- indication of the connected terminals

Pressing the arrow buttons will cycle through these options.

When showing the speed, the last two digits show the speed and the first digit shows the direction:

- "0", the motor is opening.
- "c", the motor is closing.
- " ", the motor is stopped.

When showing the counter, if the third digit has a dot it shows thousand units, if not it shows units:

- e.g. the thousands counter show "023." and the normal counter shows "456", it means that the door has opened 23.456 times.

When showing the current consumption the value is shown in Amperes and is updated real time.

If an error is diagnosed by the controller, the menu will flash with the digits showing something like "E01". To discard the error, press the "MENU" button. The error will appear again if it is not fixed.

For a full description of errors and possible solutions see Appendix: Errors. Whenever there is a change in the terminals, the status screen will change for about half a second, showing the terminal that was activated. For example if the "START" button is pressed, number "7" will be shown.



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Option	Unit	Range	Default
"AuC"	sec.	0 - 15	15
"oPS"	Hz	0 - 15	15
"cLS"	Hz	0 - 15	15
"SLo"	Hz	0 - 15	15
"SLc"	Hz	0 - 15	15
"rAS"	Hz/sec	0 - 15	15
"rAE"	Hz/sec	0 - 15	15
"TP"	sec	0 - 15	15
"TSA"	sec	0 - 15	15
"PHA"	seconds	0 - 5	5
"PH"		0 - 1 (off/on)	1
"STP"		0 - 1 (off/on)	1
"oPB"		0 - 1	1
"cLB"		0 - 1	1
"UoP"		0 - 15	15
"UcL"		0 - 15	15
"UoF"		0 - 15	15

Option Menus

Pressing the "MENU" button will show the first option. Pressing again the "MENU" button will cycle through all the available option menus. Pressing the "Arrow" buttons while showing a menu option, will enter the menu value. While showing the value pressing again the "Arrow" buttons will change the value. Pressing the "MENU" button, will save the current value and return to the menu option. If nothing is pressed for 20 sec, the display will return to the Status submenu.

Below is the list of options.

- "AuC" – Auto Close, in sec.
- "oPS" – Open Speed, in Hz.
- "cLS" – Close Speed, in Hz.
- "SLo" – Slow Open Speed, in Hz.
- "SLc" – Slow Close Speed, in Hz.
- "rAS" – Ramp Speed, in Hz/sec. This is the normal ramp speed, e.g. from fast close to slow close.
- "rAE" – Ramp Emergency, in Hz/sec. This is the emergency ramp, e.g. fast close to fast open, because of cut photocell beam.
- "TP" – Time Pedestrian, in 0.1 sec.
- "TSA" – Time Safety, in sec. Maximum time for the motor to work if an end switch is not working.
- "PHA" – Photocell Anti-block, in seconds. "0" means that it is disabled. "1 – 5" sec means the photocell will start working after the set time.
- "PH" – Photocell, "0 – 1" (off/on). Disable only for error testing.
- "STP" – Stop, "0 – 1" (off/on). Disable only for error testing.
- "oPB" – Open Button. "0 – 1". "0" for hold button to open. "1" for push button to open.
- "cLB" – Close Button. "0 – 1". "0" for hold button to close. "1" for push button to close.
- "UoP" – Micro Open. Increase this value to increase the slow open time, after activating the slow open limit switch (15). WARNING: Can only be used with three limit switches, (Terminals 13, 15, 16).
- "UcL" – Micro Close. Increase this value to increase the slow close time, after activating the slow close limit switch (Terminal 16).
- "UoF" – Micro Offset. If the door leaves a gap or goes lower when slow closing after a photocell (emergency slow close), change this value. 0 is automatic calibration. Any other value will change the gap after emergency slow close.

• "br" – Brake Voltage. This is the DC voltage applied to brake in 10nths of volts, i.e. 11 is 110 Volts.

• "brP" – Brake Polarity. Reverse the way the brake is working, from Normal Closed to Normal Open.

• "bSt" – Voltage Boost. 0 Hz Voltage. This is useful to increase if the motor doesn't have the required torque to move the door at low speeds, especially when starting.

**WARNING:** Use with caution as increasing the voltage too much can blow the fuse.

• "LuL" – Level of maximum voltage percentage (%). This acts as a voltage limiter if we need to limit the output power. This can be useful if for some reason the fuse keeps blowing.

• "SSS" – Set Speed. Speed for "SET" option (see below). Default is 30Hz.

• "SET" – Set Override. Enable this mode during installation to open or close the door without taking into consideration limit switches.

**Appendix: Errors**

**E01:**  
There is no communication between the upper and lower board.

- Power off the inverter and remove the flat ribbon cable from both boards.
- Inspect if there are any broken pins in the connectors. If there are, contact the supplier.
- If the connectors are ok, plug in the ribbon cable.
- Power on and try to operate the inverter.
- If the error persists, contact the supplier.

**E02:**  
Error with non volatile memory.

- The inverter can be temporarily operated but no settings can be stored.
- Contact the supplier.

**ATTENTION**

The Product must be installed by qualified personnel who can carry out the installation operation strictly in compliance with safety rules. The device must not be used incorrectly or for any purposes other than the ones designed for. Before proceeding with the installation it is necessary to read the instruction manual carefully in order to avoid danger to either the users or the equipment. It is necessary to power the device using a 6A bipolar thermomagnetic switch equipped with a differential with an operating current of 0.03 A. Before carrying out any installation or maintenance operations turn off the power supply to the device with the bipolar switch. The equipment must not be tampered with or modified in any way, it is necessary to turn off the power supply to the equipment before installing it or opening the enclosure.

*The manufacturer reserves the right to make changes to the product without prior notice. Therefore this manual may not correspond exactly to the product specifications.*

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

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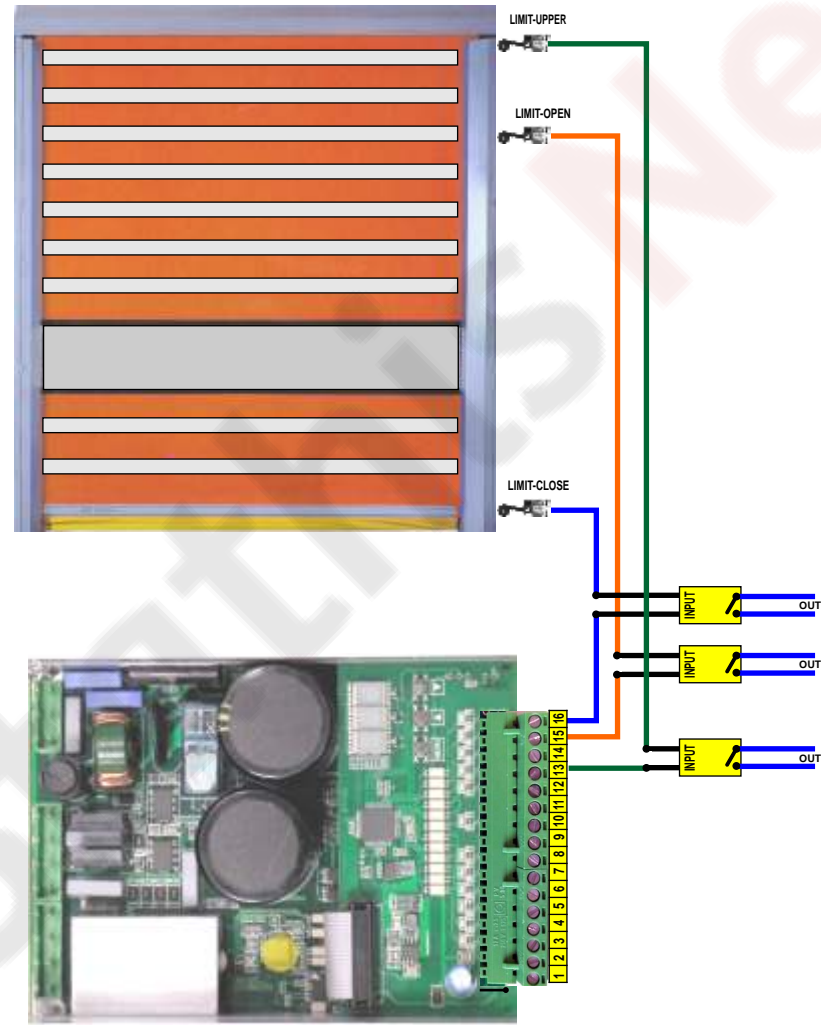
DECLARATION OF CONFORMITY	
AUTOTECH - G. KAPSALIS 8, Archimideous str. 12134 Peristeri Athens, Greece, Tel: +302105780019, Fax: +302105785112 In accordance with the following directives:	
<ul style="list-style-type: none"> <li>• EMC Directive 2004/108/EC</li> <li>• EN 50194-1:2006</li> <li>• EN 50194-2:1997</li> <li>• EN 61000-6-3</li> <li>• EN 61000-6-1</li> <li>• EN 60335-1</li> </ul>	
<i>hereby declare that:</i> Product : Single Phase to 3 Phase Motor Inverter Model : 3F9100-1, 3F9100-2 <i>is in conformity with the applicable requirements of the following documents.</i>	
<i>hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all the applicable essential requirements of the directives mentioned.</i>	
Name: Apergis Antonios Position: Technical Director Peristeri, 28 November 2013 	

# Model 3F-9100

3-phase motor inverter



## LIMIT SWITCH connections for 3-Switches System with *micro-open* function



## LIMIT SWITCH connections for 2-Switches System

