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Speed digital regulator for single-phase induction motors 10A - p/n FE1023

WARNINGS:

- Before installing and plugging the device into the mains, check that the specifications indicated on the data plate and the technical characteristics explained on this manual correspond to those of the electrical mains system and of motor.
- Use always high quality and suitable section electric cables wire to connect the inverter to the mains and to the motor.
- We recommend that you keep within the device the lenghts cable short to avoid their contact with particular components that could reach high temperatures.
- Install the regulator in ventilated places and away from sources of heat, especially if the current load absorption are close to the maximum declared.
- Connect the ground connections required:
  a) ground wire / motor metal chassis - board
  b) board - ground electrical system.
- To avoid the danger of fire, electric shock or malfunctions, do not expose the device to rain, humidity, favouring the installation in a dry place. It is recommended to not install the inverter in areas with moisture, fumes, avoid direct sunlight or heat sources that could damage the device dissipation capacity.
- The regulator must be installed and used only in compliance with the instructions provided: the manufacturer won't be responsible for the improper use of the device (if it is used for applications different than those for which it was designed) or for failure to comply with these warnings.

- The manufacturer declares that this product is free from manufacturing defects.
- The guarantee lasts 12 months if the product is correctly used.
- The manufacturer reserves the right to make changes, also without notice, on the device or on the documentation in order to improve its performances.

Technical Features

- Supply voltage 85/265V-50Hz.
- Maximum load MOTOR **10 A**.
- Maximum load LIGHTS **2 A**.
- Solenoid gas valve control.
- Microprocessor control system.
- Bipolar main switch.
- Digital commands setting trough 5-keys keyboard.
- Reduced power consumption in stand-by (off load)
- MIN and MAX speed calibration procedure.
- Protection fuse: **16A F - 10A T**.
- Protection IP50.
- Dimensions: 195x180x77 mm.
- Weight: 0.90 kg.

FUNCTIONAL BASIC CHARACTERISTICS

To use the regulator, push the main switch and then the desired keys.
When the motor is on the 7 segments display shows numbers between 1 and 8, representing the speed set for the suction motor.
In the transition from one speed to another, as well as turning the motor on and off, the motor always follows a ramp.
- The **ON** button controls motor ignition and automatically selects the speed 1: at each start is however envisaged that the engine turns, for 3 seconds, at a different speed (boost speed). After 20 seconds, the gas valve is activated and this event is signaled by the LED **DL**.

- Pressing the **OFF** button, the gas valve is immediately turned off and this is signaled by the switching off of the **DL** led: the motor begins to draw at full power (speed 8) for 20 seconds, then stops.
- At each press of the button △ the speed of the motor increases according to the scheme: V1 → V2 → ... → V7 → V8.
- At each press of the button ▽ the speed of the motor decreases according to the scheme: V8 →V7 → ... →V2 →V1.
- With the engine off or with the engine running, pressing the button "**lights**" allows you to activate / deactivate the lights.

MOTOR'S SPEED SETTING PROCEDUR

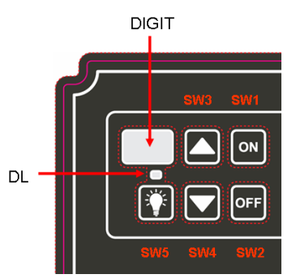
When loads are off it is possible to access the motor speed calibration procedure, customize the value of the minimum speed, maximum and the starting speed.
After completing the calibration procedure, the intermediate speeds (the speed 2 to 7) are defined by software in accordance with the minimum and maximum set.
If the user does not perform the calibration procedure for the minimum, maximum and starting speed settings, the parameters are assigned default values.

Push at the same time, for 3 seconds, **SW3** and **SW4** keys to enter the motor speed calibration procedure: the display indicates "0", to indicate that it is enabled the setting of the starting speed, and the minimum speed is automatically selected which can be associated to that parameter (note that this speed, depending on the type of load applied, may not be sufficient to start the motor: in this case press the **SW3** key to increment until the motor starts). Act on **SW3** keys and/or **SW4** to increase and/or decrease the speed until you get the desired value for the starting speed.

Press the **SW1** button to confirm and proceed with the minimum speed setting: the display shows "1." while the motor continues to run at the starting speed previously selected. Act on **SW3** keys and/or **SW4** to increase and/or decrease the speed until you get the desired value for the minimum speed, considering that for it you can not select a value higher than the one chosen for the starting speed. Press the **SW1** button to confirm the selection and proceed to the maximum speed setting: the display shows "8." and the motor begins to run at the maximum speed settable.

Act on the keys **SW3** and/or **SW4** to increase and/or decrease the speed until you get the desired value for the maximum speed: the minimum value that can be selected for it is a function of the minimum speed previously selected.
Press the SW1 button to exit the motor speed calibration procedure: the settings for the starting speed, the minimum speed and the maximum speed will be saved, the motor will stop and the display turns off. While setting the speed value, it is possible to increase and/or decrease rapidly the value of current speed by pressing the buttons **SW3** and/or **SW4**.

While the calibration procedure is in progress it is possible to restore the default values for the starting speed, the minimum speed and the maximum speed: for this purpose it is necessary to hold for 3 seconds **SW2**.
This operation also causes the stop of the motor, the display turns off and the end of the calibration procedure.



Scheme of connections