EMC

Digital controller for Modbus-based management of single-phase AC fan motors

AC fans

Single-phase

Slave

EMC is a **single-phase slave controller** designed to operate exclusively via the **Modbus RTU protocol**, allowing the master controller to manage all operating parameters in real time, both in **read** and **write** mode. Ideal for the control of **single-phase fans** in **HVAC&R systems**, it provides a **precise** and **efficient** speed control solution.

Speed regulation is achieved through **balanced phase-angle control** synchronized with the mains supply, applying the set value with a fixed **6-second acceleration and deceleration ramp**. This ensures **smooth transitions** and protects the motor from sudden electrical or mechanical stress.

The controller is equipped with **three TK thermal contact inputs**, enabling direct monitoring of the fan group protections, with status available via **Modbus**. In the event of a communication loss exceeding the default **timeout**, EMC automatically activates an **emergency speed**, configurable via **DIP switch**, to ensure **operational continuity**.

The isolated **RS485 Modbus RTU interface** features configurable communication parameters. Upon request at the ordering stage, the controller can be connected to an optional **remote display** for local parameter management and operating status visualization.

Housed in an **IP55 enclosure** made of high-performance technopolymer, resistant to dust, humidity and high temperatures, EMC is designed for use in **harsh environments**. Thanks to full **Modbus integration**, it represents a **reliable solution** for automated speed control of single-phase fans.

Rated current (RMS)

at 50 °C ambient temperature

10A

Supply voltage

Available options:

230 Vac **± 15%**

50/60 Hz:

Automatic

Control principle

Phase-cut control

Single-phase phase-cut control, mains-synchronised and line-balanced

Modbus RS-485 (RTU) connection

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1 Slave

Control system

Proportional Slave

Digital inputs

3 Inputs
On/Off

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Motor thermal protections (TK)

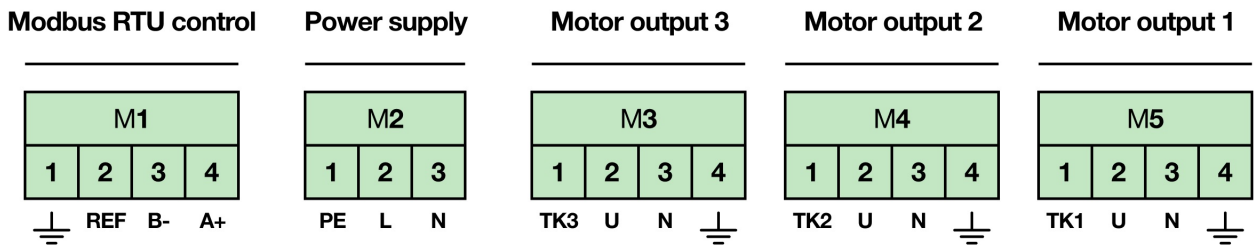
Operating parameters

Modbus registers

Technical specifications

Number of motor connection outputs	3
Interface	Optional LCD display 2x16
Electrical protections	• Control input protection • Mains overvoltage protection
Protection ratings	IP55
Applicable earthing systems	Full compliance with international earthing standards IT / TT / TN
Operating temperature	-20°C / 50°C
Weight (kg)	1,5 Kg
Dimensions H × W × D (mm)	199 x 162 x 94

Electrical I/O connections



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