Guntner Info

GMM

Guntner Motor Management

**Intelligent
EC Fan Motor Controller
for Fluid Coolers, Drycoolers
and Condensers**

- *Reduces Energy Consumption and Noise Levels*
- *Display Provides Key Operating Information*
- *Reduces Startup and Maintenance Costs*
- *Improves Overall System Reliability*
- *Condenser: Provides condensing pressure control for stable pressure ratios in the refrigeration cycle*
- *Fluid Cooler: Provides precise leaving fluid temperature and optimized operation for your application and ambient conditions*

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GMM – Guntner Motor Management

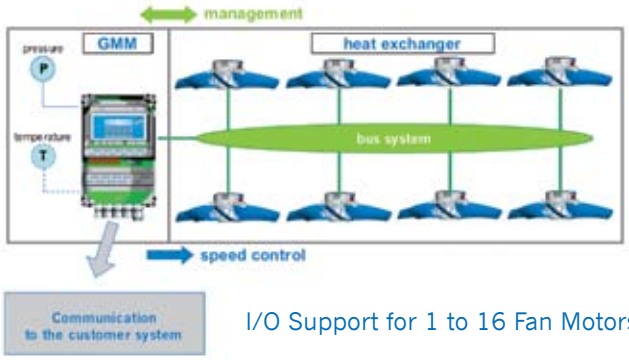
Intelligent System for Condensers and Fluid Coolers

EC (Electronically Commutated) Fan Motors combined with the GMM controller creates an intelligent fan motor system that optimizes operation of the heat exchanger and simplifies maintenance.

The controller adjusts fan motor speed based on pressure or temperature, regulating processes and providing reliability and information for plant operation.

Input/Outputs provided for monitoring/communication with plantwide systems.

Control Function and Motor Management in One Control:



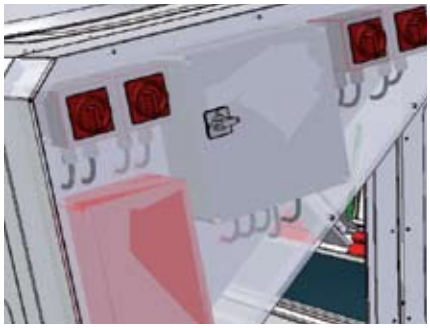
I/O Support for 1 to 16 Fan Motors

What are EC Fan Motors?

EC Fan Motors are electronically commutated, brushless DC motor systems often used as drives for blowers and fans. They are highly efficient at various speeds and require minimal maintenance.

Recommendations For Use

In order to achieve most efficient operation, we recommend EC Fan Motors and the GMM controller for all condensers and fluid coolers with fans over 450 mm / 18 in diameter.



What Makes Guntner Motor Management Special?

The GMM Controller Offers the Following Benefits:

Due to simple operation of the controller, set-up time is minimal.

Parameter setting of EC Fan Motors by the GMM Controller is automatic during initial startup and also if replacing fan motors.

Alarm and operating information are shown in the display of the controller. All settings can be made in the plain text display with choice of language (English, Spanish, French and German).

Information on different operating parameters is available including operating hours, switching frequency, energy data, fan speed, and more. This data can be used for analysis and helps improve efficiency of the complete system.

A manual and automatic bypass function is built in to assure continuous operation. Difficulty with any one fan motor does not affect operation of the others.

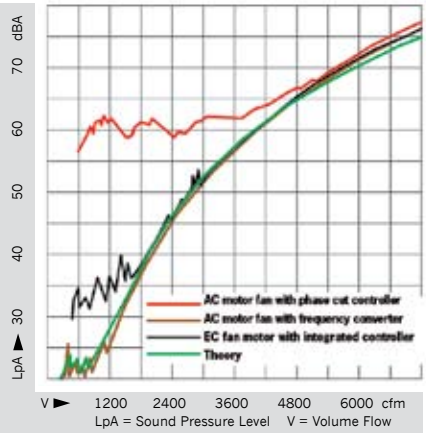
Save Costs

When using the GMM controller with EC Fan Motors in part-load operation, less energy is necessary for achieving the required air volume.

Due to the integrated pressure or temperature control, the system is regulated in an energy efficient way.

Lower Noise Levels

Reduce sound emission by using EC Fan Motors and the GMM controller
No control-induced noise, especially in part-load operation. The sound pressure level of EC Fan Motors in controlled speed range is considerably lower than the sound power level of AC fans.

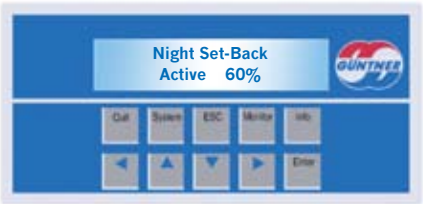


Night Set-Back Function

A night set-back is possible with the Standard GMM EC Control. After enabling night set-back in the menu of the controller, the mode can be changed via an external signal or via the internal time-setting program.

Commissioning, Maintenance and Analysis

The controller can be operated intuitively via the display of the controller. For start-up, only the set values for temperature or pressure, and, if required, the refrigerant have to be indicated. Refrigerant default values are preset at factory.



What Functions are Provided for Refrigeration Applications?

– Set value shifting via ambient temperature
– Set value shifting via external signal from master control system
– Night set-back (noise control)
– Determining the control signal via a master control (slave mode)
– Activation of special functions by defining threshold values
– Switching between heating and cooling
– Emergency or bypass function

Parameter Setting of Fans

The parameter setting of the fan(s) is automatic, no hardware, software or special knowledge is required. This applies also to fans that are replaced.

Operational Reliability

Operational reliability is assured by the permanent monitoring of components (fan motor, other parameters) that are important for smooth plant operation. In case of operating failure, the system changes automatically to emergency operation mode that has been previously defined by the operator. Fans are independently powered and controlled. The loss of one does not effect the others.

Compared to AC Motor Fans, EC Fan Motors Save Energy.

Compared to conventional systems, it is possible to save energy by using EC Fan Motors with the GMM controller.

Advantages of EC Technology

– Efficiency of motor + electronics approx. 84 - 90%
– No control-induced noise at controlled speed
– Simple installation (pre-mounted at factory by Guntner)
– Decentralized load balancing (increased redundancy)
– Range of application of EC Fan Motors at ambient temperatures between -22 °F and 160 °F

Special Features	Benefits
Energy Saving	*Energy costs can be saved with GMM controller and EC Fan Motor technology due to efficient control of condensing pressure.*
Stable Pressure Ratios	*The GMM controller provides for more stable pressure ratios in the refrigeration cycle and consequently improves the operational reliability of the plant.*
Cost Saving at Start-Up	*With the GMM controller, costs for installation and maintenance can be saved.*
More Transparency	*The plain text display provides more operating information for an optimal plant operation (e.g. operating, maintenance, fault messages).*
Simple Operation	*The controllers reliability allows for simple continuous plant operation.*
Reliable	*Integrated safety functions, e.g. bypass function, monitoring function...*
Special Functions for Refrigeration Applications	*Special functions for refrigeration applications, such as night set-back, can be activated.*
Motor Parameters Plug and Play	*If a fan has to be changed, the parameters of the new motors are set automatically. Important for the EC Fan Motor technology.*

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