for a greener tomorrow

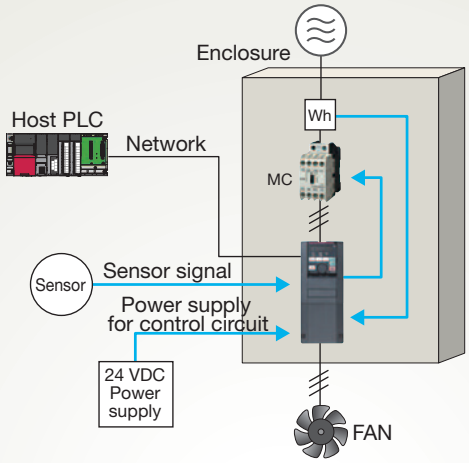
MITSUBISHI ELECTRIC
Changes for the Better

FR-F800 ENERGY SAVING DRIVES

Application Examples

Fan Control

Signals sent via the enclosure (relay panel, etc.) such as input magnetic contactor signals, watt hour meter signals, and sensor signals can be read directly into the inverter and controlled. A fan can be controlled in accordance with the conditions without using relays, etc. Furthermore, by using an external 24 VDC power source for the control power supply, input machine signals can be turned ON and OFF regardless of whether there is an input power source. And by employing an external 24 VDC power supply for the control power, input machine signals can be turned ON and OFF, regardless of the existence of a main circuit power supply.



CC-Link

A plug-in option (FR-A8NC) enables handling of remote registers as arbitrary data in the sequence programs. A variety of equipment inside the factory can be centrally controlled with a CC-Link Network.

HVAC



PM motor control

Driving a PM motor, which is more efficient than an induction motor, achieves more energy savings.

Automatic restart after instantaneous power failure / flying start function

When the power is restored after an instantaneous power failure, the operation can be restarted from the motor coasting speed. Even if a flying start changes the rotation direction, the operation can be smoothly started.

PID control

The forward/reverse rotation under PID control can be switched by turning ON/OFF the signal input, which allows easy switching between the heating and cooling temperature controls.

BACnet® MS/TP

BACnet® MS/TP is a suitable network for use with air conditioning controls. This makes it possible to achieve efficient air conditioning controls with all-in-one management of the air conditioning in the entire building.

FR-F800 Energy Saving Drives – Application Examples

Pumping



Multi-pump function
By controlling the pumps connected in parallel (up to four pumps) by the PID control by one inverter, water volume, etc. can be adjusted.

PID pre-charge function
The system avoids sudden acceleration at the pump start and prevents the pump from being damaged by water hammer.

Load characteristics measurement function
The system quickly detects faults such as adhesion of foreign matter to the impellers, etc.

Compressors



Advanced optimum excitation control
While saving energy just as with the conventional Optimum excitation control, the new Advanced optimum excitation control provides a large starting torque, which allows for both a large starting torque and energy saving operation.

High-speed operation
[Maximum output frequency]
- V/F control 590 Hz
- Advanced magnetic flux vector control 400 Hz

Cooling Towers



PID control
A sensor monitors cooling water temperature, which enables the operation corresponding to the target temperature. The system cost can be reduced because no external PID controller is required.

Electronic bypass function
The inverter contains complicated sequence circuits for switching between the commercial power supply operation and inverter operation. The operation can be automatically switched over to the commercial power supply operation if a fault occurs in the inverter.

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