Manual Speed Controller For Small Motors

Features

- Supply & extract ventilation systems
- Noise level reduction
- Flow rate reduction on centrifugal pumps

Specification

Nominal Supply	230Vac/1Ph/50-60Hz
Control type	Manual via potentiometer
On/Off switch	Inbuilt with pot
Starting sequence	According to pot position
Pot action	Clockwise = min. to max. speed
Minimum speed	Adjustable via trim pot (Default = 90V)
Fuse type	5 x 20 fast blow 'F' type
Current ratings:	
FC-MTY1	0.1 - 1.0A
FC-MTY2	0.2 - 2.0A
FC-MTY4	0.4 - 4.0A
Fuse ratings:	
FC-MTY1	FF 1.25A
FC-MTY2	FF 2.5A
FC-MTY4	FF 5A
Mounting style	Wall & flush mount (FC-MTY4 wall mount only)
Dimensions	82 x 82 x 65mm
Protection category:	
FC-MTY1, 2	IP44
FC-MTY4	IP54
Country of origin	Belgium

Product Codes

FC-MTY1
Electronic speed controller 1A.

FC-MTY2
Electronic speed controller 2A.

FC-MTY4
Electronic speed controller 4A.

CE Compliance:
All electronic speed controllers comply with the following European Directives: EMC 89/336/CEE with modification 92/31/CEE and Low Voltage Directive 72/23/CEE.

Technical Overview

The FC-MTY range of electronic speed controllers provide an economic means of regulation for voltage controllable single -phase AC motors. Centrifugal fans, axial fans, propeller fans, and centrifugal pumps are prime candidates for electronic speed control.

Motor Compatibility

Electronic speed controllers can only be connected to motors having appropriate characteristics. Motors must be voltage controllable, asynchronous, squirrel caged and Class 'F' wound. They should be direct driven (not belt driven), with standard or external, high resistance rotors. The motor should be air cooled and should have a frame size sufficient to dissipate the additional heat that is generated when running at low speed or low airflow. It is recommended that motors have internal thermal protection. Two or three wire motors can be used.

The speed controllers operate most efficiently with conventional split capacitor or shaded pole motors. Six or eight pole motors are suitable but four pole motors are preferred as they have a greater control range. Two pole motors can be used but they are difficult to control at low speeds (below 600 rpm) and can cause start-up problems at low voltages. **If there is any doubt regarding a motor's compatibility with electronic speed controllers, contact the fan or motor manufacturer for guidance.**

Selection Criteria

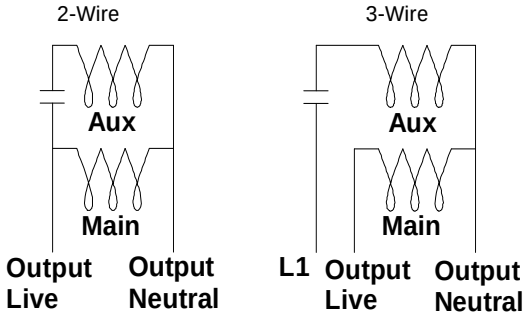
A motor must be well loaded for optimum speed control, so choose one that is just big enough for the application. The load on the motor must be at least 75% of the nominal power of the motor at maximum speed. Choose a speed controller with a maximum current that is just larger than the nominal motor running current. For example, if the motor has a rating of 2.95 amps then select a speed controller with a maximum current of 3 amps. Several motors can be connected to a single speed controller, so long as the speed controller's maximum current is not exceeded.

Nominal Current Range

The speed controller Nominal Current Range stated in the selection tables, refers to the nominal current rating of the motor. The Nominal Current Range is based on a maximum ambient temperature of 30°C. All electronic speed controllers will accept a motor starting current that is up to 3 x greater than the maximum nominal current of the speed controller.

2 & 3 Wire Motors

The FC-MTY speed controllers are suitable for use on two or three wire motors. An additional terminal is provided for this purpose. If a two wire motor is used, the auxiliary terminal can be used to bypass the main switch. Alternatively, it can provide a 230Vac switched output to ancillary equipment.



Starting Sequence

The speed controller starting sequence describes what happens when first switching on and also when power is reapplied, with the speed controller switch already in the on position.

Fusing

All electronic speed controllers are fitted with fast blow motor protection fuses. Additional isolators, fusing, mcbs etc. should be installed as required by local electrical and safety regulations.

Connections