Systemair SC3 & SC5 FAN SPEED CONTROLLERS

GENERAL

The units utilise triac phase cutting techniques and should be used with motors which have been approved by the manufacturers for speed control by this method.
Control is best achieved with propeller, axial or centrifugal fan loads where absorbed power at full load corresponds to at least 90% of the motor's capacity.

SPECIFICATION

Model Number	Maximum Continuous Running Current (Amps)	Fuse Size (Amps)
SC3	3	6.3
SC5	5	10

1. The SC3 and SC5 controls are designed for continuous operation, as shown in the above table, indicating maximum continuous load current at 40 degrees C ambient on single phase 220/240v 50Hz supply.

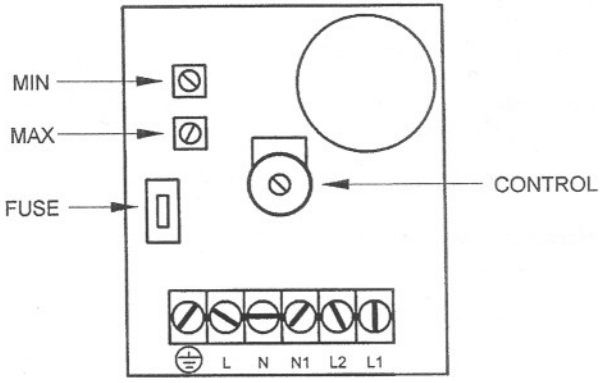
2. The normal equipment operating range is 0 degrees C to 40 degrees C ambient. Component temperature range is -20 degrees C to +60 degrees C.

3. The SC3/5 series are housed in plastic boxes with aluminium front panel and are IP40 rated. The front panel acts as a heatsink and is warm under normal operating conditions.

ELECTROMAGNETIC COMPATIBILITY AND GUARANTEE

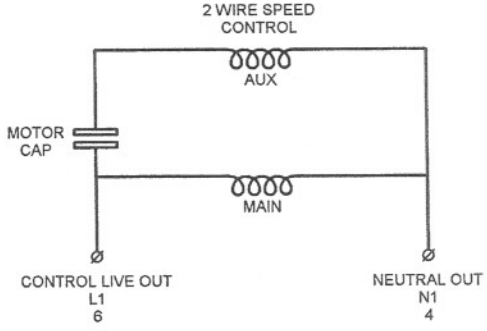
Controls are fitted with integral filters and conform to the requirements of the EEC Directive 89/336/EEC and are CE marked accordingly. Testing of the units was conducted against the standard for Adjustable Speed Electrical Power Drive Systems EN 61800-3 1997 "unrestricted" (incorporating EN61800-3 1996) and Harmonics EN 61000-3.
The CE mark remains valid only when the unit is correctly installed. It is the installers responsibility to ensure that guidelines are followed. It should be remembered that when two or more EMC compliant components are combined into a larger system the the resulting system may not be compliant. Emissions from combined components may be additive. It is the EMC conformance of the final system which counts in law.
All products carry a two year guarantee when correctly connected to suitable specified fan motors.

PCB LAYOUT



WIRING THE MOTOR

Motor wiring is shown below



WARNING

Mains voltage is present. Care must be exercised when setting potentiometers. It is the responsibility of the user to ensure compliance with the Health and Safety at Work Act 1974.

MOTOR PROTECTION

Fuses in the units are for protection of the controller wiring and components in case of short circuits.
They do not afford motor overload protection.

The installer should provide motor protection as recommended by IEE Regulations.

CONTROLS

1.	**On/Off Switch:**	This isolates the motor from the live line. Live remains present on the fuse and neutral remains present on the PCB unless a separate isolator is fitted before the controller.
2.	**Front Panel Rotary Knob:**	This enables the user to vary the fan motor speed from a pre-set minimum to maximum speed.
3.	**Minimum Speed:**	This internal board mounted control pot provides minimum speed adjustment to as low as 10% of the maximum rated motor speed.
4.	**Maximum Speed:**	This internal board mounted control provides maximum speed adjustment. This control is provided to reduce any dead band the motor may have.

WIRING THE CONTROL

Make the connections to the control as follows:
Terminal No:

1. Supply Earth
2. Supply Live (L)
3. Supply Neutral (N)
4. Motor Neutral (N1)
5. Do not use
6. Motor Control Live (L1)

INSTALLATION INSTRUCTIONS

1. Install the control in a well ventilated area where the ambient temperature does not exceed 40°C.

2. Ensure the control is securely mounted.

3. Route cables through knock outs at the bottom of the unit and ensure electrical connections are correct.

4. Switch on the mains supply. Switch on the speed controller.

5. **Hardstart** - The control applies full power to the load for a few seconds before dropping back to minimum.

6. Rotate speed control knob fully clockwise and check that the fan accelerates to full speed.

7. **Minimum Speed** - The minimum speed is preset and does not normally need adjusting. If this is necessary firstly ensure the control knob is set to minimum (fully anti-clockwise) then remove the front panel to access the potentiometer (MIN). Adjust as required. Beware of setting too low a value which would cause a stall condition on the fans.

8. **Maximum Speed** - The maximum speed is preset to full speed. If it is necessary to adjust then first ensure the control knob is set to maximum, and remove the front panel to access the potentiometer. Adjust as required.

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