

SPCON 1.5A, 3.5A, 7.5A & 10

Auto Transformer Speed Control For Single Phase Motors

Installation Manual

1.0 SAFETY INFORMATION

- The provision of the electrical supply and the connection of the unit to the electrical supply must be carried out by a qualified electrician.
- Isolate from power supply before removing any covers. During installation / maintenance ensure all covers are fitted before switching on the mains supply.
- All-pole disconnection from the mains as shown in the wiring diagram must be incorporated within the fixed wiring and shall have a minimum contact separation of 3mm in accordance with latest edition of the wiring regulations.
- This unit must be earthed.
- This appliance should not be used by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning the safe use of the appliance by a person responsible for their safety. Children shall not play with the appliance. Cleaning and user maintenance shall not be carried out by children.

1.1 Symbols



GENERAL WARNING

Signifies a general warning regarding hazard specified by supplementary information.



ELECTRIC SHOCK

This unit must be completely electrically isolated before any panels are removed. Check mains supply and control connections.



REFER TO INSTRUCTION MANUAL

Read and understand the installation and maintenance manual before installing, operating or maintaining this product.

1.2 Important Information

This manual contains important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the product.

While the product has been manufactured according to the accepted rules of current technology, there is still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings contained in these instructions are not complied with.

- **Read these instructions completely and thoroughly before working with the product.**
- **Keep these instructions in a location where they are accessible to all users at all times.**
- **Always include the operating instructions when you pass the product on to third parties.**

1.3 Personal Protective Equipment

The following minimum Personal Protective Equipment (PPE) is recommended when interacting with Nuairé product:

- **Protective Steel Toed Shoes** - when handling heavy objects.
- **Full Finger Gloves (Marigold PU800 or equivalent)** - when handling sheet metal components.
- **Semi Fingerless Gloves (Marigold PU3000 3DO or equivalent)** - when conducting light work on the unit requiring tactile dexterity.
- **Safety Glasses** - when conducting any cleaning/cutting operation or exchanging filters.
- **Reusable Half Mask Respirators** - when replacing filters which have been in contact with normal room or environmental air.

Nuairé would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

2.0 INTRODUCTION

The SPCON transformer speed controllers provide either 3-step or 5-step speed control depending on the model.

Auto-transformers having class 'F' insulation are used to provide discrete voltage steps.

The 3-step models feature a power indicator, an on/off switch and a separate 3-position rocker switch as speed selector. On the 5-step models, a single rotary switch provides the on/off and speed selection function.

All models are fitted with suitable fuses for short circuit protection. The controller casing is manufactured from plastic pre-coated steel or impact resistant polycarbonate.

All models are suitable for indoor installation only. All controllers meet LVD and EMC directives for safety and electromagnetic compatibility.

Transformer speed controls produce a pure sine wave output resulting in quiet motor operation. Transformer controls are therefore preferred for noise sensitive applications.

2.1 Control Application

This control is only for use with single phase fans that are suitable for speed control. The fan motor used should be internally protected from overheating.

3.0 MECHANICAL INSTALLATION

Installation must be completed by competent persons, in accordance with good industry practice and should conform to all governing and statutory bodies i.e. IEE, CIBSE, etc.

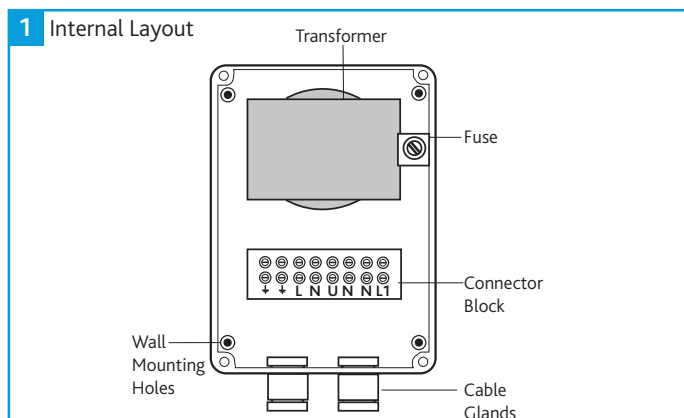
The unit must be mounted on a secure, vibration free vertical surface away from direct heat sources or water spray. The maximum permissible ambient temperature is 40°C.

Turn the front knob to the OFF position. Remove the front cover (x4 screws).

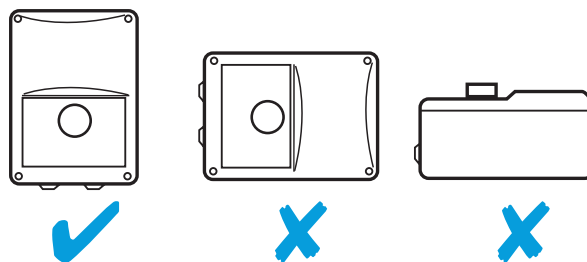
Select a suitable flat surface. Note the unit must be mounted vertically with the cable entry at the bottom (Figure 2).

Mark through the casing rear fixing holes (cable access at bottom). Drill and plug the mounting surface as necessary. Mount the case using suitable fixing screws (not supplied).

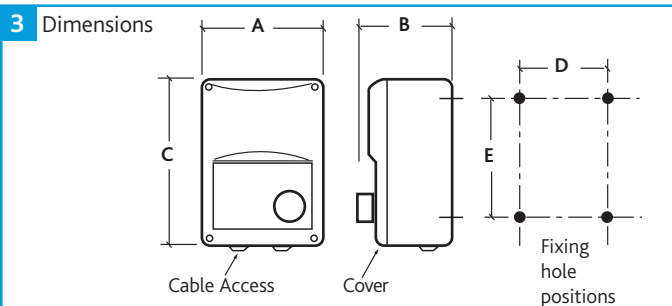
Bring the motor and mains cables (these must be of a correct diameter size for the purpose) through the case glands or grommets and connect to the controls terminal block as shown. Restore mains supply and switch control on.



2 Mounting Orientation



3.1 Dimensions



Unit	Dimensions (mm)					Weight (Kg)
	A	B	C	D	E	
SPCON1.5	115	85	180	98	182	1.7
SPCON3.5	200	140	280	139	233	3.6
SPCON7.5	200	140	280	139	233	6.0
SPCON10	300	300	170	250	250	9.5

4.0 ELECTRICAL INSTALLATION

A fused spur isolator (not included) must be provided in the supply fitted with a suitably rated fuse.

Before commencing work ensure the electrical supply is disconnected.

4.1 Electrical Information

Voltage: 230Vac 1ph 50Hz

Unit	Current	Fuse
SPCON1.5	1.5A	2.5A
SPCON3.5	3.5A	5A
SPCON7.5	7.5A	10A
SPCON10	10A	14A

4.2 Wiring Diagram

4 Wiring Diagram



- ⊕ EARTH
- ⊕ EARTH
- L Mains LIVE supply connection
- N Mains NEUTRAL supply connection
- L1 Unregulated 230V output (or switch live e.g. to damper)
- N Neutral
- N Motor Neutral
- U Regulated Output to Motor

4.3 Changing The Fuse

The fuse is located near the internal transformer (Figure 1). Remove cover, lift out the fuse holder with a screwdriver. Use only the correct value fuse, fast ceramic with a high breaking capacity. Use of incorrect fuse will void warranty. **The fuse is designed for short circuit protection only.**

5.0 TROUBLESHOOTING

Check that the correct voltage is applied and that all connections are correct.

Check the fan to be regulated is functional.

Check the fuse at the fuse box.

Check the fuse in the control.

A fused spur isolator (not included) must be provided in the supply fitted with a suitably rated fuse.

6.0 MAINTENANCE

The control requires no maintenance other than cleaning. Disconnect supply and clean with a damp cloth. Do not spray any cleaning fluids onto the control.

7.0 WARRANTY

The 3 year warranty starts from the day of delivery and includes parts and labour for the first year. The remaining period covers replacement parts only.

This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

The product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale. Customers purchasing from outside of the UK should contact Nuair International Sales office for further details.

Failure to maintain the unit as recommended will invalidate the warranty.

8.0 END-OF-LIFE AND RECYCLING

Where possible Nuair use components which can be largely recycled when the product reaches its end-of-life:

- Fans, motors, controls, actuators, cabling and other electrical components can be segregated into WEEE recycling streams.
- Sheet metal parts, aluminium extrusion, heating/cooling coils and other metallic items can be segregated and fully recycled.
- EPP, plastic ducting, nylon corner pieces, plastic heat exchangers, packaging material and other plastic components can be segregated into mixed plastic and widely recycled.
- Cardboard packaging, wood, used filters and other paper components can be largely recycled or fully processed in energy from waste centres.
- Remaining Items can be further segregated and processed in accordance with the zero waste hierarchy. Please call After Sales Support for further information on items not listed above.

Ensure that Nuair product is made safe from any electrical / water / refrigerant supplies before dismantling commences. This work should only be undertaken by a qualified person in accordance with local authority regulations and guidelines, taking into account all site based risks.

9.0 AFTER SALES AND REPLACEMENT PARTS

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

If ordering spares please quote the serial number of the unit together with the part number, if the part number is not known please give a full description of the part required. The serial number will be found on the identification plate attached to the unit casing.

Telephone 02920 858 400
aftersales@nuaire.co.uk

Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.

