

NSC-*A-B

Speed Control for Single Phase Motors Installation and Maintenance Manual



1.0 IMPORTANT SAFETY INFORMATION

- The provision of the electrical supply and the connection of the unit to the mains 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 HAZARD 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 Nuaire 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.

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

2.0 INTRODUCTION

The installation must be carried out by qualified personnel in accordance with the appropriate authority and conforming to all statutory and governing regulations e.g. IEE, CIBSE etc.

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

2.1 CODE DESCRIPTION

Code	Description	Weight
NSC1-3A-B	3A Nuaire Speed Control	0.5kg
NSC1-6A-B	6A Nuaire Speed Control	0.9kg
NSC1-10A-B	10A Nuaire Speed Control	1.0kg

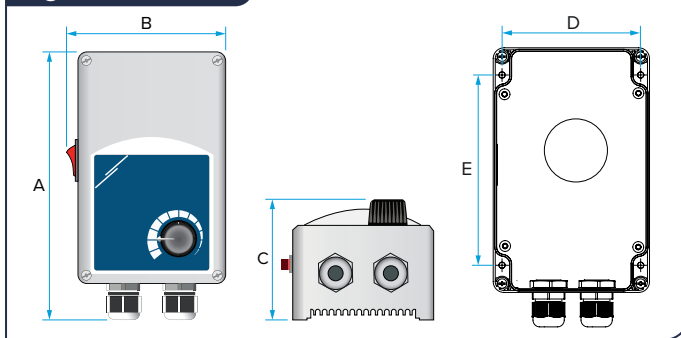
3.0 INSTALLATION

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.

Before commencing work ensure the electrical supply is disconnected.

3.1 DIMENSIONS (MM)

Fig 1: Dimensions



Code	Dimensions (mm)				
	A	B	C	D	E
NSC1-3A-B	162	96	75	71	108.8
NSC1-6A-B	205	124	97	102	140
NSC1-10A-B	205	124	97	102	140

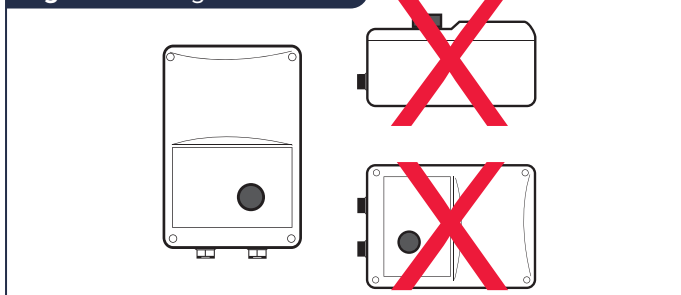
3.2 WALL MOUNTING

The unit must be mounted on a secure, vibration free smooth vertical surface away from direct heat sources or water spray. The maximum permissible ambient temperature is 35°C.

Unscrew the front cover and open the enclosure. Note the wires connecting the potentiometer to the PCB.

Whilst ensuring the correct mounting position (Fig 1), fix the unit to the surface using the screws and dowels provided (Fig 2).

Fig 2: Mounting Orientation



3.3 ELECTRICAL INFORMATION

Voltage: 110-240, 50-60Hz

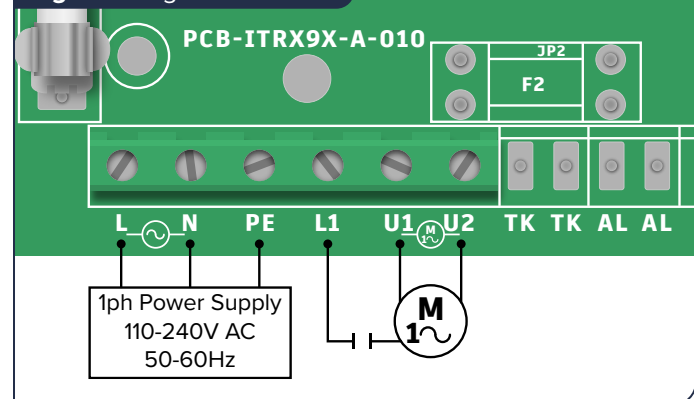
Code	Max Current	Fuse
NSC1-3A-B	3.0A	F-5,0 A-H 250V AC
NSC1-6A-B	6.0A	F-10,0 A-H 250V AC
NSC1-10A-B	10.0A	F-16,0 A-H 250V AC

3.4 WIRING DIAGRAMS

Complete the control wiring using the correctly sized cables as per the wiring diagram (Fig 3). Connect the motor/fan before connecting the earth and power cables.

Connection L1 is provided as an extra connection to for example a damper or as an input to the control without bypassing the front controlling knob.

Fig 3: Wiring Connections



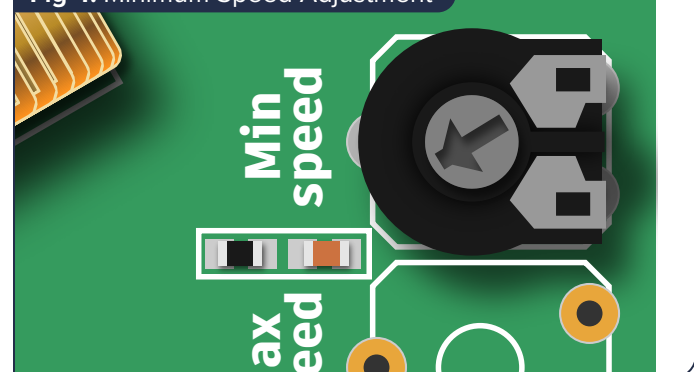
- L** = Power Supply, 110—240 VAC / 50—60 Hz
- N** = Neutral
- PE** = Earth Terminal
- L1** = Unregulated Output, I_{max}. 2 A
- U1** = Regulated Output To Motor - Neutral
- U2** = Regulated Output To Motor - Line

4.0 CONTROLS

4.1 ADJUSTING MINIMUM SPEED

With the potentiometer at minimum, adjust the trimmer screw (Fig 4) so that the motor will continue to run and also restart smoothly in the event of a power fault. As default is the trimmer is set at 45% in the factory, Nuaire recommend a minimum of 30%.

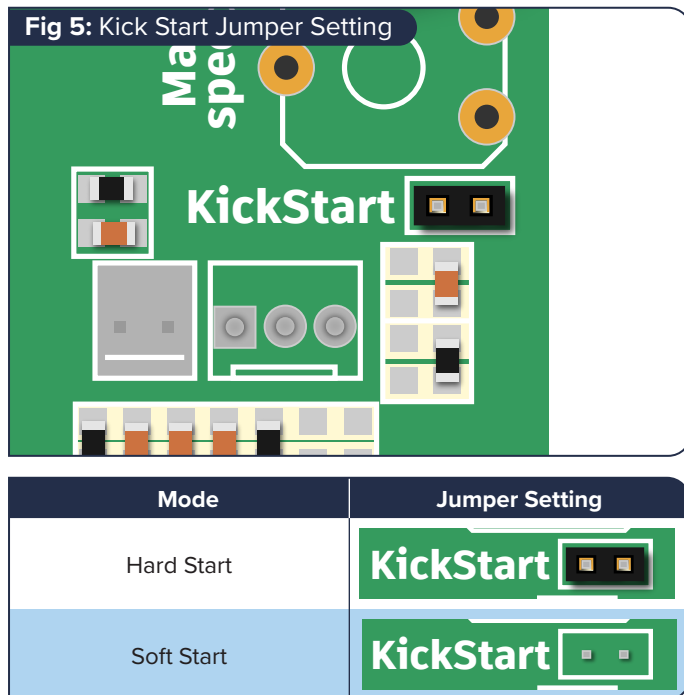
Fig 4: Minimum Speed Adjustment



4.2 SETTING KICK START

There are two start modes, internally selectable by fitting or removing the jumper located on the PCB (Figure 5).

- **Hard Start:** Motor starts at maximum speed for 8-10 seconds, then follows the position of the potentiometer.
- **Soft Start:** Motor starts according to the position of the potentiometer.



4.3 CHANGING FUSE

The fuse is located on the internal control plate. Remove the front cover, lift out the fuse with a screwdriver. Use only the correctly rated fuse, fast ceramic with a high breaking capacity. Use of an incorrect fuse will void warranty.

5.0 TROUBLESHOOTING

- Check that the correct voltage is applied and that all connections are correct.
- Check the fan to be controlled is functional.
- Check the fuse at the fusebox.
- Check the fuse at the control.

6.0 MAINTENANCE

It is important that maintenance checks are recorded and that the schedule is always adhered to, in all cases, the previous report should be referred to.

6.1 ROUTINE MAINTENANCE

This control requires no maintenance other than cleaning. Disconnect supply and clean with a damp cloth, Do not spray 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 Nuaire 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 Nuaire 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.

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.



