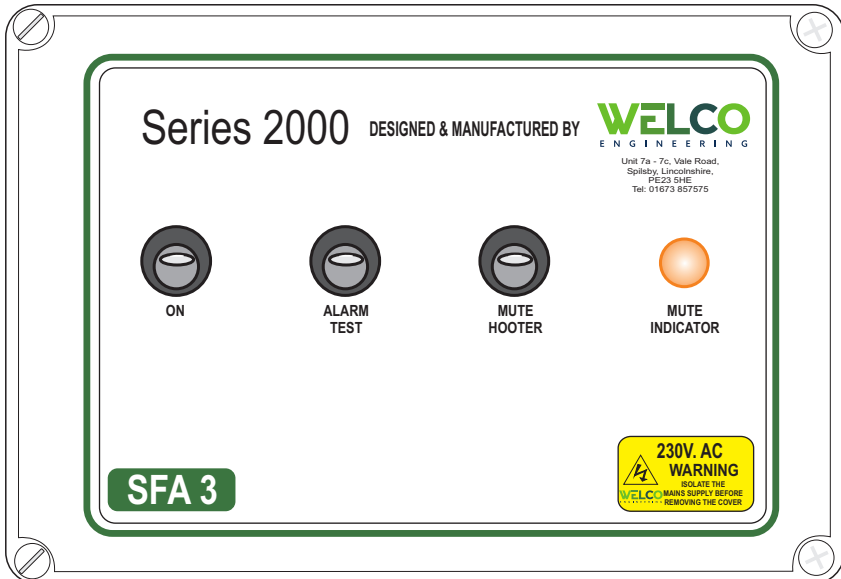


# SFA 3

## SUPPLY FAILURE ALARM

*MAINS FAILURE AND OVER TEMPERATURE ALARM  
MAGNETIC COIL SUPPLY WITH BATTERY CHARGER*

*PLEASE READ IMPORTANT INFORMATION*



# Welco Engineering Ltd

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# HEALTH AND SAFETY AT WORK



**DANGER  
ELECTRIC SHOCK RISK**

## **ELECTRIC DEVICES CAN CONSTITUTE A SAFETY HAZARD**

It is the responsibility of the user to ensure that the installation and maintenance of the product are carried out in strict compliance with any relevant instructions, regulations, codes of practice or bylaws in force.

This equipment should only be installed and commissioned by appropriately qualified personnel who have read and fully understood this users manual. If in doubt contact your supplier or Welco Engineering Ltd. for technical advice.

Every care has been taken to ensure that the contents of this instruction booklet are accurate , however no liability is accepted for any consequence of its use.

The manufacturers reserve the right to revise the product specification and other technical features resulting from improvement and continual development

## **SPECIFICATION**

Supply .....230V +10% -6% 50HZ 160VA

Output Supply.....24V d.c. 5A maximum continuously for 3 minutes when mains supply fails

## **SFA 3**

The SFA 3 unit provides magnetic retention for three minutes after the mains supply has failed by employing its own uninterruptible power supply Batteries within the unit are maintained in readiness by the circuits own adjustable charging system.

## **CIRCUIT DESCRIPTION**

The SFA 3 will maintain an output to the magnet coils thus retaining the ventilation doors in position for 3 minutes after the mains has failed. Batteries are maintained in readiness by the charging circuit, which is adjustable by variation of potentiometer VR 1 (marked V.ADJ) on the circuit board. If the supply fails , the power loss contacts will open causing the hooter to operate. The 24V d.c. Supply will be maintained for 3 minutes and then be automatically turned off . This time period is adjustable by varying the potentiometer VR 2 (marked TIME) on the circuit board. After the delay period a 24Vd.c. "Failsafe" signal becomes available to motor open ventilators.

The over temperature contacts are operated by the thermostat contacts, which should be normally closed (N/C) by the thermostat . In case of over temperature occurring the 24Vd.c. Supply will be immediately switched off.

To safeguard the SFA 3 unit against overloads the output is protected by an over current relay that operates when the current exceeds 5A . The operation of the over current relay will switch off the 24V d.c. Supply which will release the ventilator doors. To reset this relay which is located on the printed circuit board, press the reset button after the fault has been removed from the output circuit.

The hooter may be muted by operating the mute switch on the front cover. To prevent the hooter being muted accidentally, a mute indicator lamp will operate once the mute switch has been activated. A press to test button is provided on the front cover , which when operated will immediately switch off the output supply to the coils, Hence opening all the doors.

# BATTERY CONNECTION

It is most essential that the batteries are connected with the correct polarity to the battery input terminals on the printed circuit board. Failure to connect correctly will cause serious damage to the control circuitry for which Welco Engineering Ltd cannot accept any responsibility.

## SFA 3 Internal Battery Connection

The SFA 3 for low power loads employs batteries mounted within the unit and connected as the system diagram shows. The internal batteries are connected to the output terminals to produce the following supplies:-

- Terminal 3 .....0V
- Terminal 4.....+12V
- Terminal.....+24V

## SFA 3 External Battery Connection

The SFA 3 may be used for higher power applications by using higher rated batteries, additional relays and other circuitry usually mounted in an external panel. However the output from the SFA 3 remains the same at 5A for the magnetic retention.

Batteries should be connected as follows:-

- Battery 1.....Negative terminal 0V
- Battery 1.....Positive terminal +12v
- Battery 2.....Negative terminal +12V
- Battery 2.....Positive terminal +24v
- Output terminal 3
- Output terminal 4
- Output terminal 4
- Output terminal 5

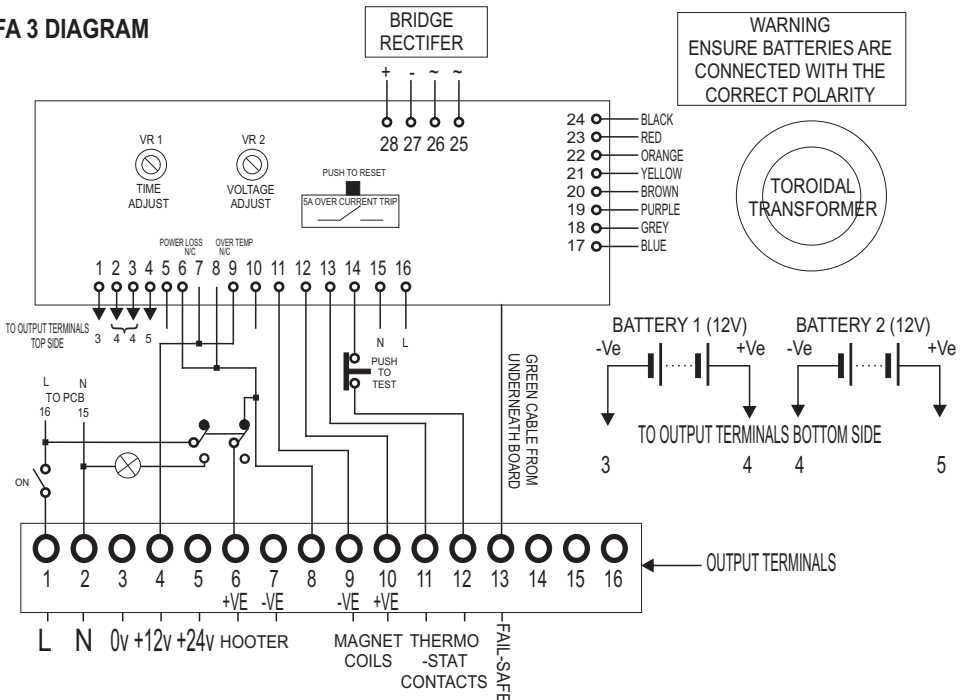
## HOOTER

Welco Engineering Ltd. Recommend an external electronic sounder (hooter) which provides 118 Db and is rated at 300mA 12v

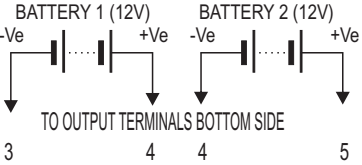
## THERMOSTAT

An over temperature thermostat suitable to use with the SFA 3 is the *MICRO-STAT*(electronic unit) or the more simple *WMS 1* (mechanical unit) both of which are available from Welco Engineering Ltd.

## SFA 3 DIAGRAM



**WARNING**  
ENSURE BATTERIES ARE CONNECTED WITH THE CORRECT POLARITY



← OUTPUT TERMINALS

## Welco Engineering Ltd.

For over 40 year's Welco Engineering Ltd. have specialised in the design, manufacture and installation of state of the art electrical and electronic control systems and equipment for agriculture and industry.

The company offers large comprehensive range of standard manufactured products to satisfy the majority of environmental control requirements, and a service to build to customers specific requirements.

Welco Engineering Ltd., also offer a consultancy service, based on engineers considerable knowledge and expertise in resolving the many environmental problems associated with intensive livestock production units.

### Welco PRODUCT RANGE

- ☐ Fan Speed Controllers.
- ☐ Automatic Fan Controllers with switched Heater Interlocks.
- ☐ Electronic Sequential fan Controllers.
- ☐ PRESCON 2 Digital Air-Pressure controller.
- ☐ Lighting Control Systems.
- ☐ Total Refurbishment Programmes.
- ☐ Maintenance Contracts.

## Welco Engineering Ltd.

- ☐ **Welco MICROLIGHT**  
"Dawn to Dusk" Conrols
- ☐ High and Low Temperature Alarms
- ☐ Supply failure Alarms
- ☐ Alarm Monitoring Systems
- ☐ Magnetically Held Door Control Systems
- ☐ MICRO-STAT Digital Thermostat.
- ☐ MICRO-TIMER Digital Cycle Timer.
- ☐ Transducers, Sensors and Thermostats.
- ☐ Vent Drive Motors/ linear Actuators and Power Supplies
- ☐ STICK Microcomputer Total Environment Controller

For further details of any product or service please do not hesitate to contact us:-

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