SOUNDER CONTROL MODULE SCM-AS4

INTRODUCTION

DESCRIPTION

*The SCM-AS4 forms part of the Nittan (UK)'s **SENSORTEC-ANALOGUE** range of Analogue Addressable Devices.*

This module is designed to control a group of bells or sounders from the detection signalling loop of an analogue-addressable fire detection system.

The sounder circuit is monitored with an end of line resistor, just as a conventional sounder circuit and can drive up to 500mA of sounder load. Polarised sounders are required, or a blocking diode should be used.

Various combinations of MCM-AS4 modules or SCM-AS4 Sounder Control Modules may be used to interface with gas extinguishant systems, conventional fire detection systems or shopping precinct subsystems.

OPERATION

The fire alarm control equipment must be capable of communicating with the SCM-AS4 Sounder Control Module. If in doubt, check with panel manufacturer.

The SCM-AS4 is connected on to the detection signalling loop's SIG and -S wires, exactly as any other "AS" device. A 24V d.c. supply must be connected to the SCM-AS4, of sufficient capacity to drive the sounders. This supply may be provided by a local PSU if required. The SCM-AS4 is able to inform the control panel if the 24V dc supply to the SCM-AS4 fails. If a local PSU is used, and it is equipped with a fault change-over relay, then the SCM-AS4 will also monitor this relay and communicate to the control panel the failure of the external PSU.

Consideration should be given to the option of mounting Short Circuit Isolators on either side of, and directly adjacent to, the SCM-AS4 Sounder Control Module. This would protect the operation of the sounder circuit in the event of a short circuit on an adjacent part of the detection signalling loop.

The control panel can command the SCM-AS4 to operate it's sounders continuously, or to pulse them. The pulse timing is 1s on, 1s off, generated by an on-board timer. To prevent several pulsing Sounder Control Modules from gradually drifting out of phase, which may happen due to variations in component tolerances, a synchronisation facility is provided. Synchronisation is achieved by a periodic brief 'synchronised pulse' applied to the SCM-AS4 Sounder Control Module's Sync. terminal, if this option is required.

The 'Local Silence' facility permits the connection of a momentary normally open switch, to effect local silencing of the sounders. This switch resets the SCM-AS4 Sounder Control Module's internal circuit, without affecting other parts of the fire system. Additional fire signals received from the control panel will re-energise the sounder circuit automatically.

SCM-AS4 Sounder Contol Module is made up as follows:-

1 x Metal enclosure c/w 20mm knockouts
1 x SCM-AS4 PCB c/w internal plastic PCB enclosure with hinged lid.
1 x Earth point (on lid)
1 x Earth point (inside of enclosure)
1 x 200mm Earth Strap
1 x Label inside lid for product identification and device address identification.

SENSORTEC-ANALOGUE FAMILY:-

SENSORS:-

***ST-I-AS** - Analogue Ionisation Smoke Sensor*
***ST-P-AS** - Analogue Photoelectric Smoke Sensor*
***ST-H-AS** - Analogue Heat Sensor*
***STB-4** - Standard Base for above sensors*

DEVICES:-

***ST-NCP-AS** - Addressable Call Point*
***BACK BOX** - Back Box for ST-NCP-AS*
***MCM-AS4** - Zone Monitor/Control Unit*
***SCM-AS4**- Addressable Sounder Control Module*
***NAM-AS3** - Addressable Input Module*
***OCM-AS3** - Output Control Module*
***SCI-5** - Base mounted Short Circuit Isolator*
***SCI-6** - Plate mounted Short Circuit Isolator*
***1-Gang Box** - Single gang box for SCI-6*

ADDRESSABLE SOUNDERS:-

***VCT-03-AS-NB** - Addressable Wall Sounder c/w Vector Plate/Cap (R = Red, W = White Plate/Cap).*
***VCT-03-CP(W)** - Spare Vector Plate/Cap (White)*
***VCT-03-CP(R)** - Spare Vector Plate/Cap (Red)*
***VCT-03-NT-AS** - Addressable Sounder c/w STB-4 Base pre-wired to the sounder.*
***VPR-SA2-NTAS** - Addressable Sounder, IP65 rated, wall mounted.*

SOUNDER CONTROL MODULE SCM-AS4

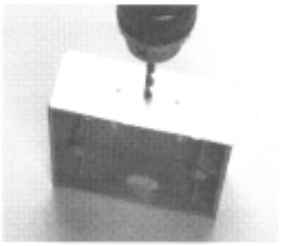
INSTALLATION

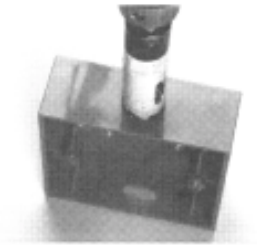
1)

a) *Remove the SCM-AS4 boxed unit from its packaging.*
b) *Remove the 4 x posi-screws holding the lid to the main enclosure of the SCM-AS4.*
c) *Completely remove the single top screw holding the P.C.B. enclosure to the rear of the main enclosure.*
d) *Unscrew halfway the two remaining lower screws holding the PCB enclosure to the rear of the main enclosure.*
e) *Gently tilt and lift out the P.C.B. enclosure and safely store the PCB enclosure until the wiring stage. (Note:Please take ESD precautions when removing the P.C.B. from the main enclosure.*

2)

a) *Using initially a 3-4mm 'pilot' drill and then a special 'knock out' drilling tool, as shown below, drill out the required amount of knockout holes for cable gland entry to the main enclosure of SCM-AS4.*





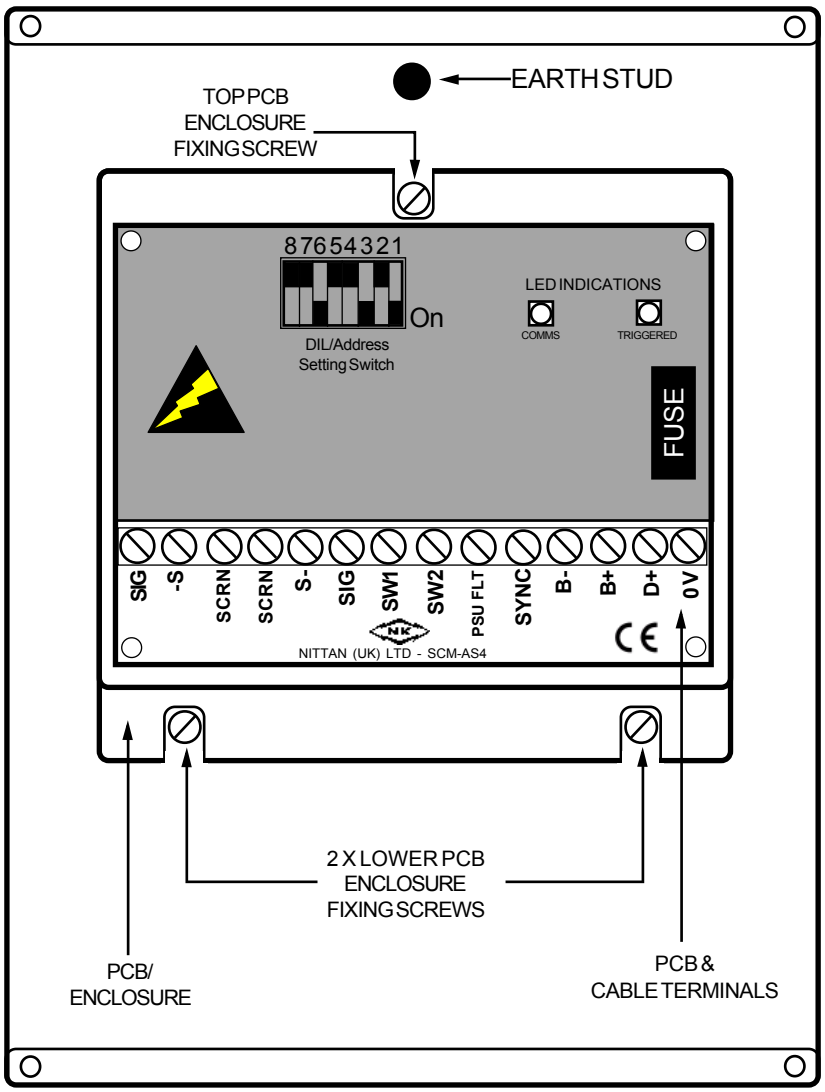
b) *Using the template on page 5 of this manual, mark and drill the main enclosure screw positions in the wall.*
c) *Position the SCM-AS4 enclosure to the wall and screw the 4 x fixing screws through the rear of the enclosure.*
d) *Terminate all the loop cables and glands as required into the knockouts in the main enclosure.*
e) *Insert the PCB enclosure in reverse order as per instructions above.*

3)

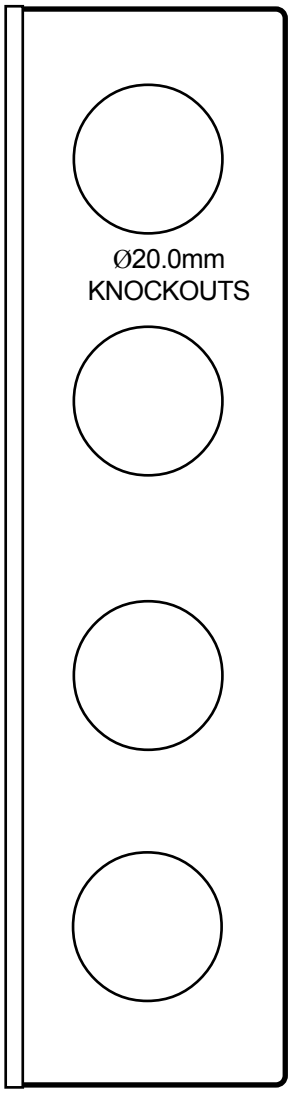
a) *Terminate all the loop cables and any IP/OP auxiliary switching cables where required into the terminals on the PCB, please see page 8 of this manual for connection details.*
b) *Please note there is an earthing stud on the lid and on the rear of the main enclosure box if an earth is required on the fire system devices. An earthing cable/strap is provided with the SCM-AS4.*
c) *When all the necessary commissioning has successfully been carried out, replace the lid onto the enclosure, replace the 4 x lid fixing posi-screws.*

Electro-static Sensitive Devices.
Take suitable ESD precautions when removing or installing printed circuit boards.

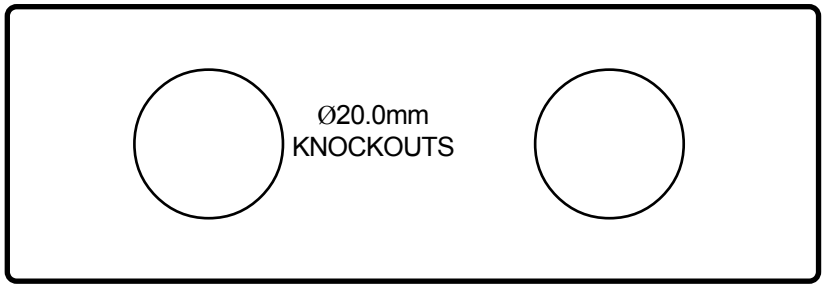
ENCLOSURE DESCRIPTION



TOP VIEW WITH LID REMOVED

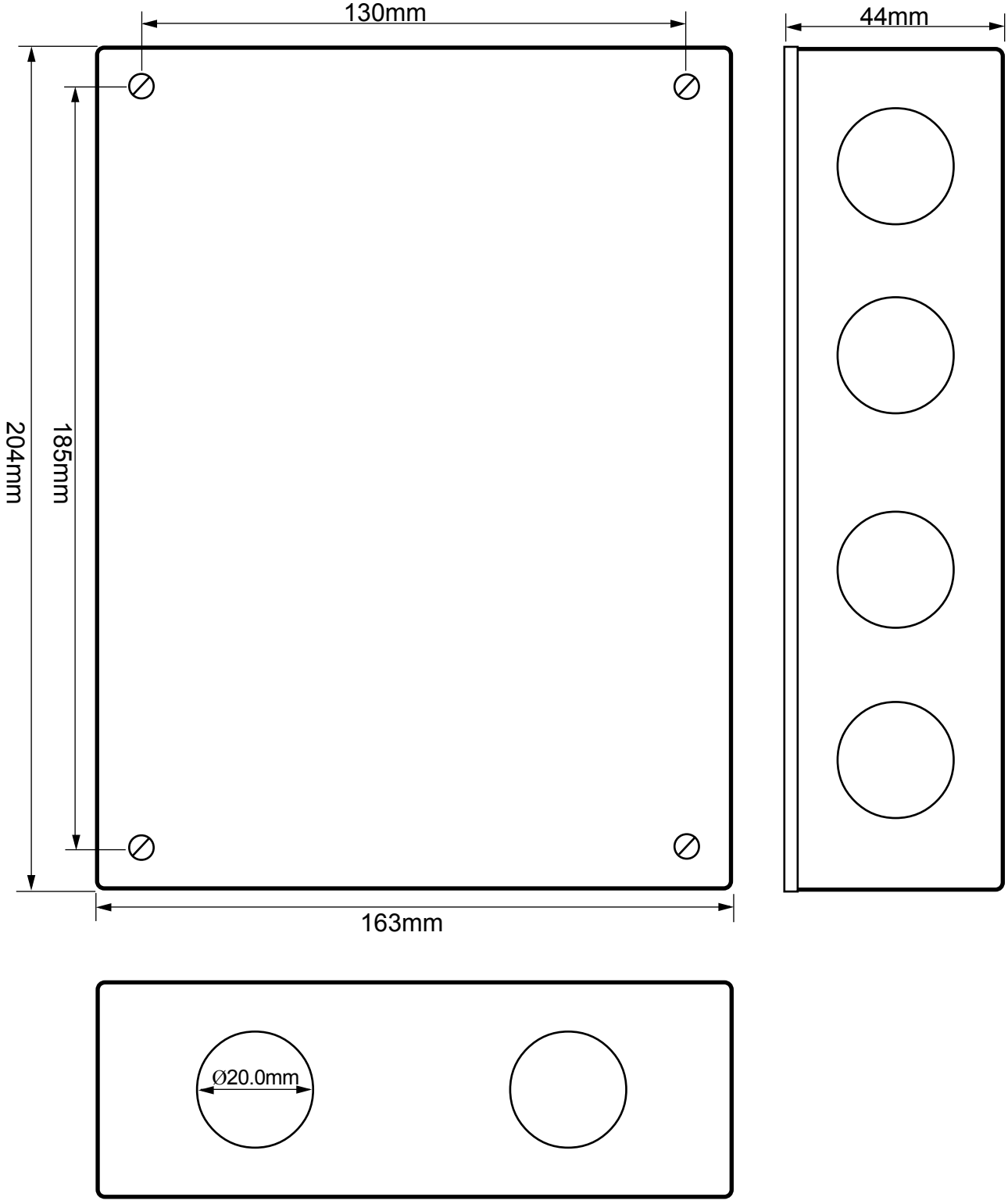


SIDE VIEW 1



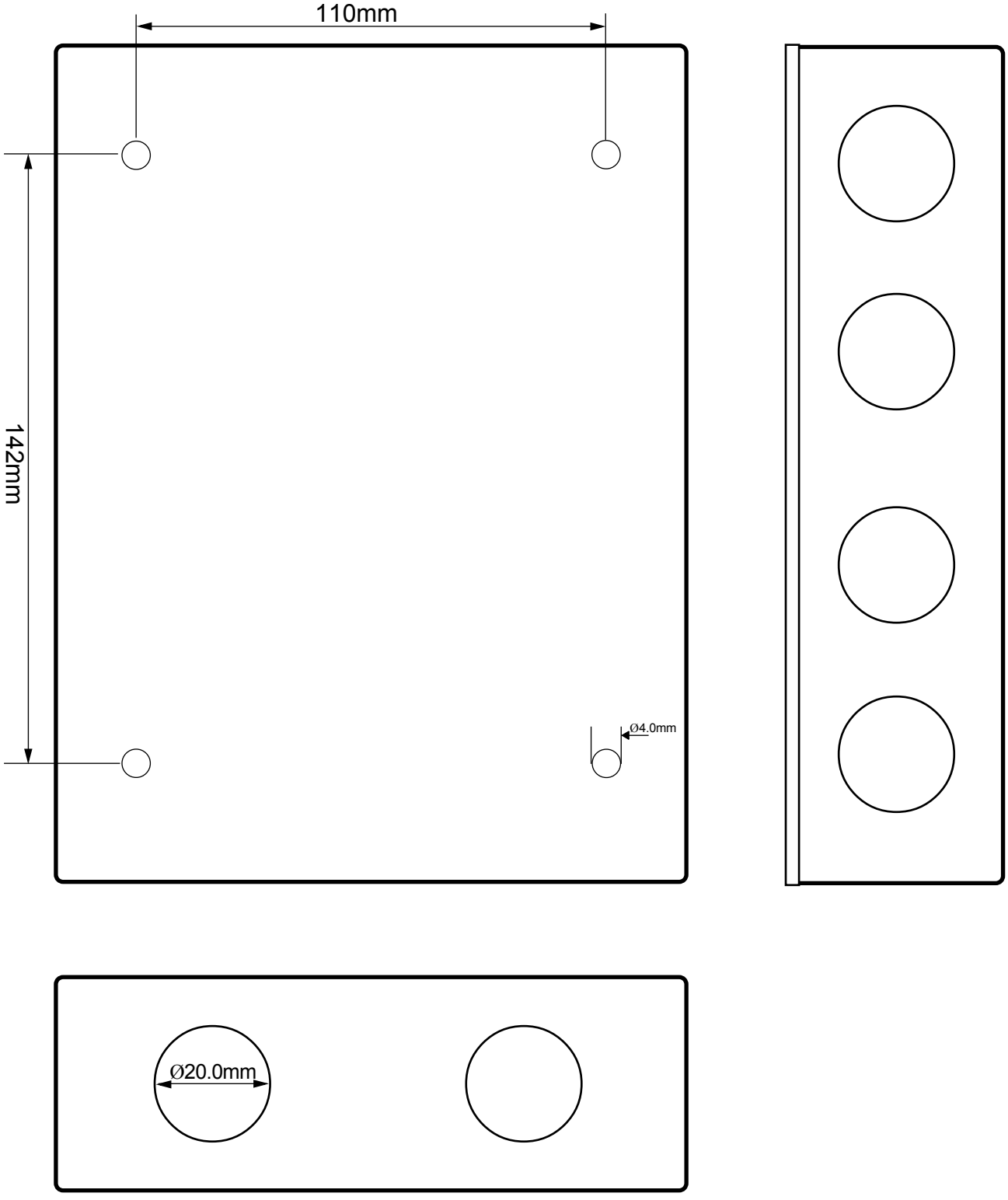
SIDE VIEW 2

ENCLOSURE OUTER DIMENSIONS



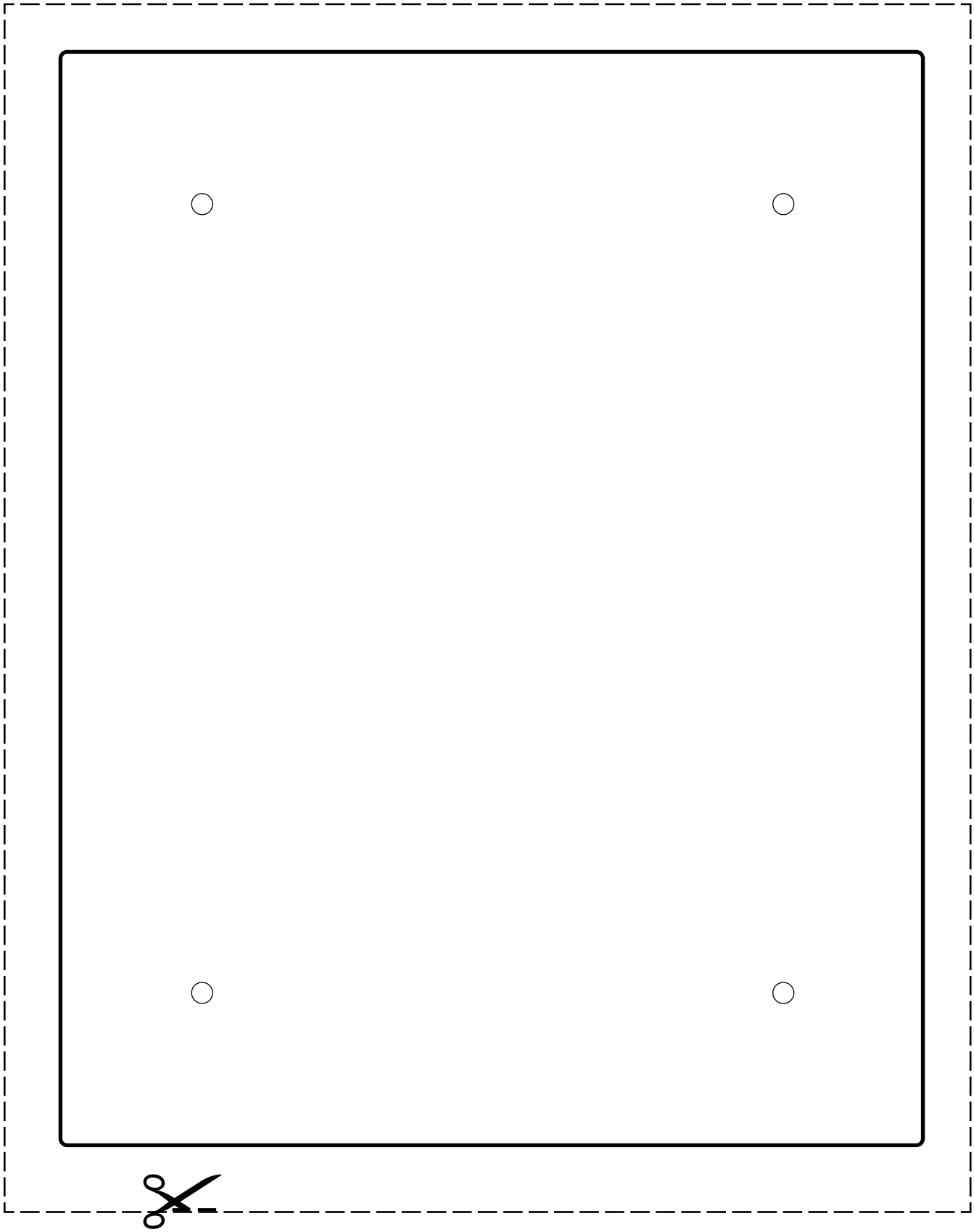
NOT TO SCALE

ENCLOSURE DIMENSIONS (INTERNAL MOUNTING HOLES)

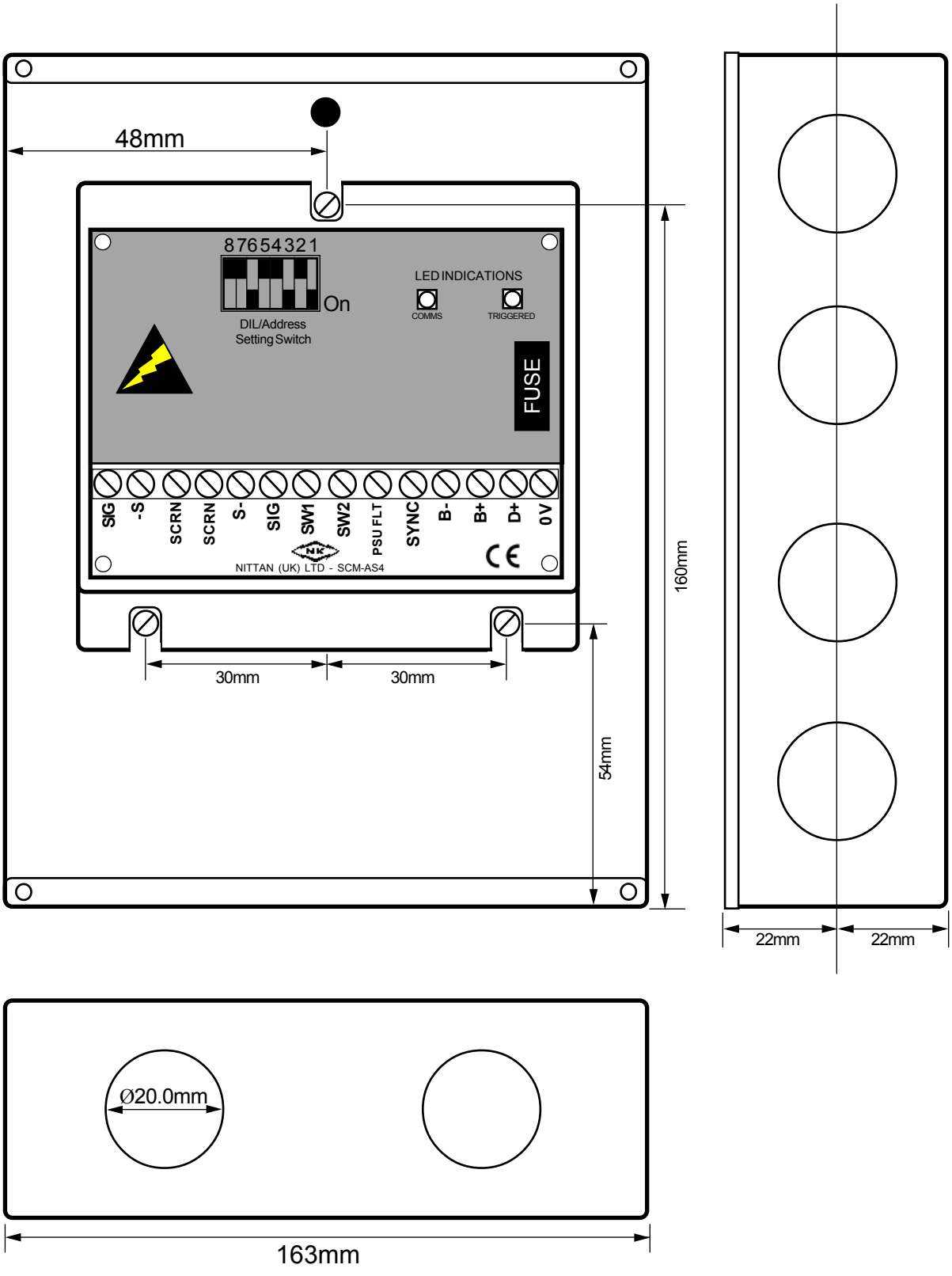


NOT TO SCALE

ENCLOSURE MOUNTING TEMPLATE



ENCLOSURE (INTERNAL ASSEMBLY DIMENSIONS)



NOT TO SCALE

FIG A. CONNECTION WIRING DETAILS FOR EXTERNAL SOUNDER/BELL CIRCUIT:-

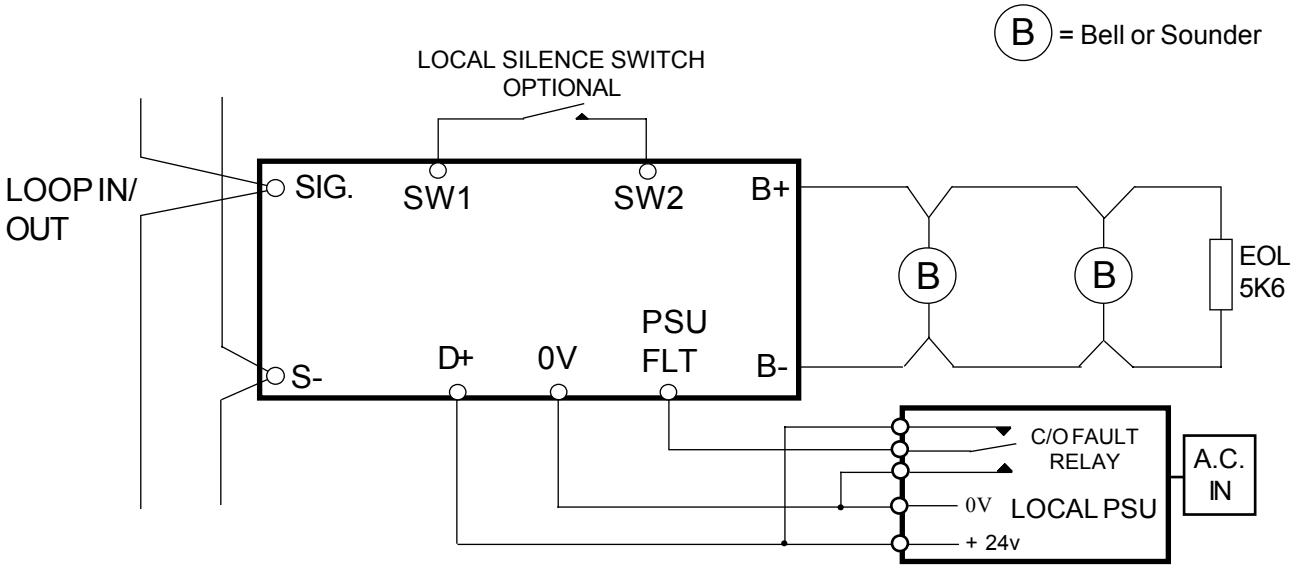
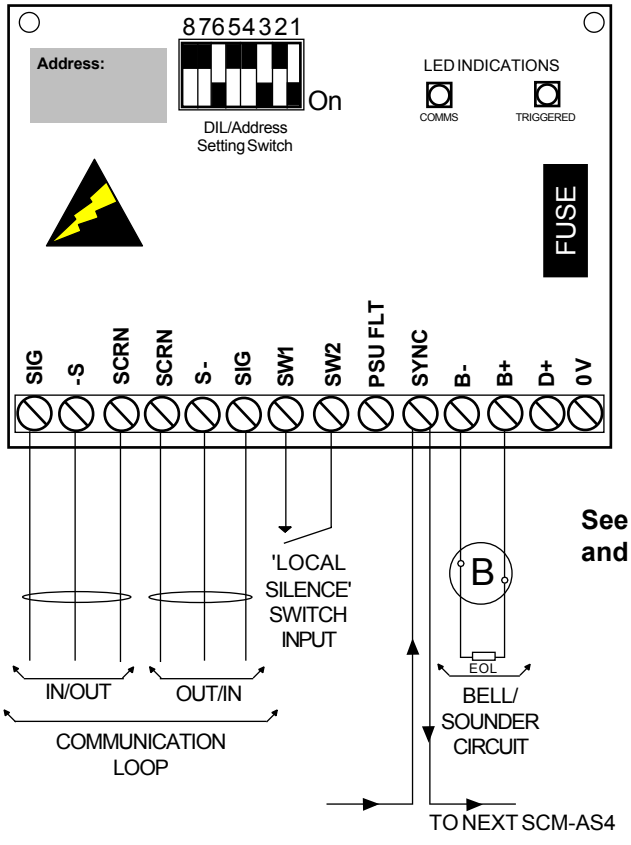
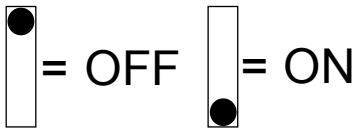


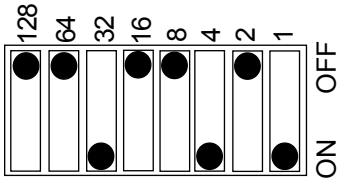
FIG B. CONNECTION DETAILS AND ADDRESS SETTING

CONNECTIONS TO SCM-AS4 PCB



ADDRESS SETTING





Example address switch is set to **37** Decimal .

See FIG A for PSU FLT, D+ and 0V connections

Electro-static Sensitive Devices.

Take suitable ESD precautions when removing or installing printed circuit boards.

SCM-AS4 - TECHNICAL SPECIFICATION

Part Numbers:-

Model Number	-	-	SCM-AS4.
Description	-	-	Sounder Control Module (Boxed).
Computer Reference Number	-	-	F16N85125

Protocol:-

Communication Protocol	-	-	NISM/WFM/02 (Nittan AS Protocol).
Address Setting	-	-	8 Bit, DIL Switch
Type Identification Data	-	-	2 Bits Fixed.

Ratings:-

Current Consumption	-	-	250µA, (Quiescent). (SCM-AS4 Only).
Maximum Alarm Current Consumption	-	-	500µA, (Alarm condition). (SCM-AS4 Only).
Maximum Sounder/Bell Load	-	-	500mA (B+ & B-), Permissable with external PSU connected.
Power Supply Requirements	-	-	24V d.c. +/-10%.

LED Indications:-

On Board **LED** Indication	a)	-	-	Red **'COMMS.'** LED:- ('Pulses' when polled).
	b)	-	-	Red **'TRIGGERED'** LED:- ('Pulses' when the sounder circuit operates. **Note: 'COMMS'** & **'TRIGGERED'** LED's both 'Pulse' simultaneously when the sounder circuit operates).

General Specifications:-

Mass	-	-	50g (PCB only).
	-	-	1.1Kg complete (Boxed).
20mm Knockouts	-	-	12 nos.
Operating Temperature	-	-	-10 Deg. C. to +50 Deg. C.
I.P. Rating	-	-	I.P.43 (Boxed).
Earth Strap	-	-	200mm length, 24/0.2Ø Green/yellow c/w 2 x 4.5-5mm ring crimp ends.
On Board Fuse Rating	-	-	1Amp, 250V.
B+& B- Circuit End of Line Resisitor	-	-	5K6 Ohms.

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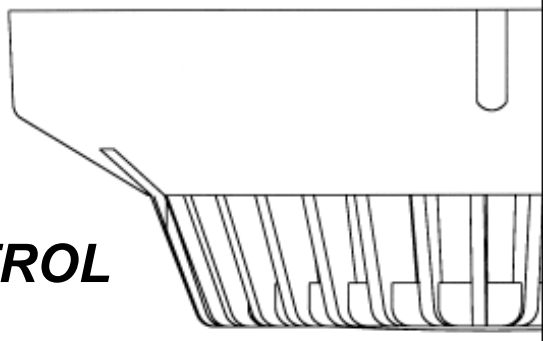

SCM-AS4 SOUNDER CONTROL MODULE INSTALLATION & TECHNICAL MANUAL

CE

BFPSA
British Fire Protection Systems Association

LPCB
UKAS QUALITY MANAGEMENT
0017

Quality System Certificate No. 041
Assessed to BS EN ISO 9002

NITTAN (UK) LTD.
Hipley Street,
Old Woking,
Surrey, England,
GU22 9LQ United Kingdom.

Tel: +44 (0) 1483 769555
Fax: +44 (0) 1483 756686

Web Site: www.nittan.co.uk
E-mail: sales@nittan.co.uk