Installation and Operating Instructions
SCS40, SCD40, SCT4x, SCS60xx, SCD60 and SCT6x Series
Revision 5 March, 2004

High Voltage Warning

Dangerous voltages are present within the power supply. Disconnect power supply before servicing.

1. Important Safety Instructions

The SC Series of component power supplies is designed for use within other equipment or enclosures that restrict access to authorized competent personnel only. For safe installation and operation of this product, follow the instructions below:

(a) All servicing, repair, and testing of these products must be carried out by competent personnel who are conversant with the particular hazards of AC line operated equipment, and with the particular dangers of switch mode power supplies.
(b) After disconnecting the AC source, allow 5 minutes before touching the unit to allow capacitors within the unit to discharge.
(c) Heatsinks within these products may be live. Test before touching.
(d) Manufacturers have an obligation under law to protect Service Engineers as well as users. In order to comply with this legal requirement customers and OEMs must fit a label to these products that will be clearly visible to the Service Engineer accessing the overall equipment. This label must legibly warn that surfaces of these products may be hot and must not be touched when products are in operation.
(e) These products must be reliably earthed and professionally installed in accordance with the prevailing electrical wiring regulations and the safety standards covered below.

Products complying with CSA 601-1, UL2601 IEC601-1 and EN60601-1 (denoted by suffix "/M" on model number)

(a) Units conforming with these medical standards are type approved for an input voltage as follows: Nominal 100VAC-240VAC (input voltage range maximum 90VAC-264VAC), frequency range 47-63Hz.
(b) These products are designed for continuous operation within an overall enclosure complying with Clause 16 of IEC601-1 and must be mounted such that access to the mains terminal is restricted.
(c) These products are classed as Class 1, Type B equipment according to IEC601-1.
(d) These products are NOT suitable for use in the presence of flammable anesthetic mixtures with air or with oxygen or with nitrous oxide.
(e) These products are classed as ordinary equipment according to IEC601-1 and EN60601-1 and hence are NOT protected against the ingress of water. Storage, transport, and use of such products is therefore restricted to a non-condensing environment.
(f) These products contain NO user serviceable parts and must therefore be returned to the manufacturer for repairs.
(g) Connect only apparatus complying with IEC601-1 and EN60601-1 to the signal ports.
(h) These products provide reinforced insulation only between mains and output, with reference to IEC601-1 and EN60601-1.

2. Mounting Requirements and Cooling

For optimum mounting, all four 4mm diameter mounting holes at the corners of the unit should be used to secure the power supply. Please note that in order to conform to EMI specifications, the two solder pads located around the mounting holes on the underside of the board make electrical connection with chassis.

If the power supply is mounted on standoffs or spacers less than 8mm in height, basic insulation must be provided between the underside of the printed wiring board and equipment chassis.

The output power taken from the power supply must not exceed the rating stated on the power supply label. For convection cooling, ensure that adequate ventilation is provided to allow air to circulate naturally. For forced air cooling, a minimum of 30CFM air must be provided when full power is drawn from the power supply. It is recommended that the airflow be directed towards the power supply at right angles to the 3" length.

3. Input Connections and Fusing

The AC input is applied to CN1. Pin 1 = Line, Pin 3 = Neutral. Input housing: Molex 09-50-8031 or equivalent. Pins: Molex 08-52-0113 or equivalent.
Earth connection should be made to CN4 using a suitable 0.25" Faston terminal.
The SC Series is designed to operate from an AC Voltage of 90 to 255VAC without any adjustment or changes in settings.
The SC Series uses a 3.15A FAST ACTING 250V LBC FUSE 5 x 20mm (F1). Medical versions (/M) use two 3.15A FAST ACTING 250V HBC 5 x 20mm (F1, F2), DOUBLE POLE/NEUTRAL. IMPORTANT: REPLACE FUSE WITH SAME TYPE AND RATING AS THAT FITTED.

4. Safety Approvals

Designed to comply with EN60950-A4, CSA C22.2 No.234-M90, CSA-C22.2 No.950-95 and UL1950-95 when correctly installed in a limited access environment.

5. Environmental Parameters

The SC Series of products is designed for the following parameters: Material group IIIa, Pollution Degree 2, Installation Category 2, class 1, indoor use (as part of any other equipment such that the SC Series product is accessible to service engineers only).
Humidity: 5 to 95% RH non-condensing, Operational Temperature 0 to 50^{0}C.
STORAGE/TEMPERATURE: Temperature –40^{0}C to +85^{0}C. Humidity: 5% to 95% RH non-condensing.

Approval Limitations - Use in North America

When this product is used on 180-250VAC mains with no neutral, connect the two live wires to L (live) and N (neutral) terminals on the input connector. In this instance double pole fusing is required.

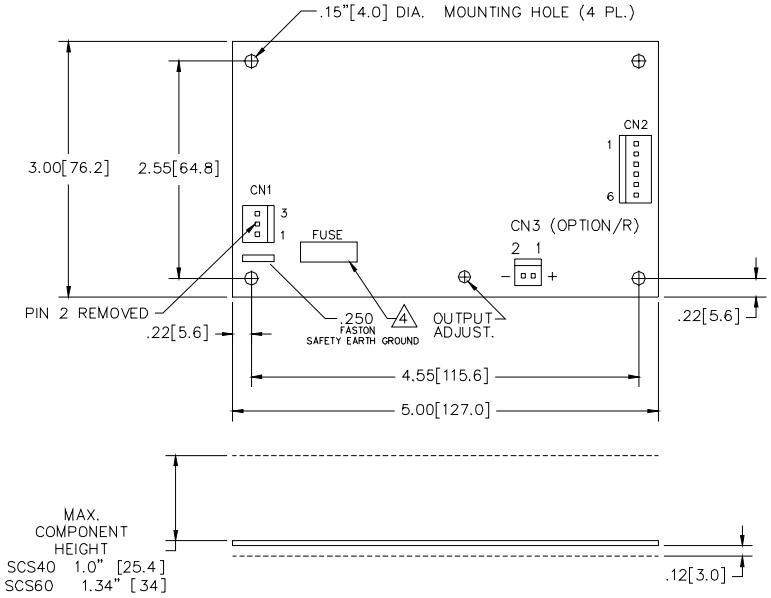
Level of Insulation

Dielectric Strength testing is carried out as follows: Primary AC circuit to earth – 2.4kVDC; **Primary mains circuits to secondary >4.3kVDC. (**This test is not possible as a finished product as damage to "Y" capacitors will occur.)

6. C.E. Marking

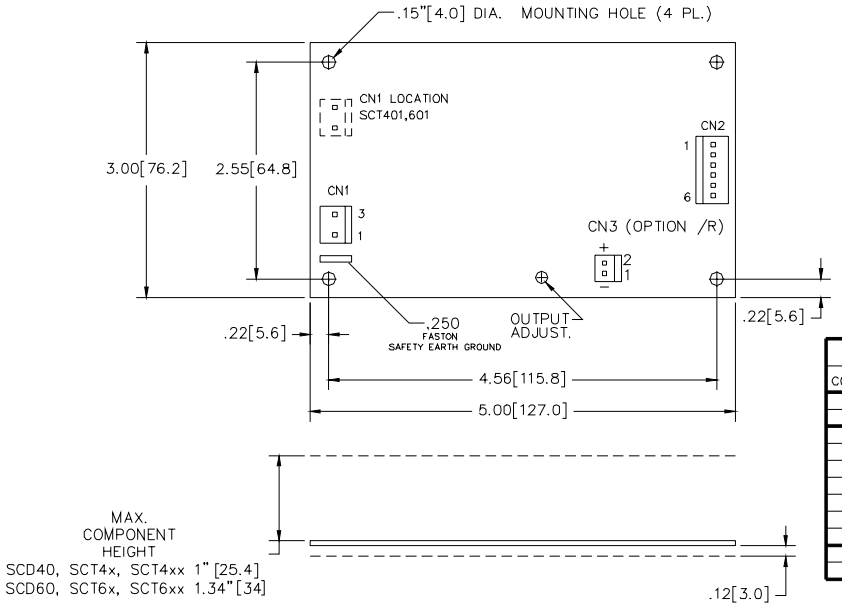
CE marking when applied to a product covered by this handbook indicates compliance with the Low Voltage Directive (73/23/EEC) as modified by the CE Marking Directive (93/68/EEC) in that it complies with EN60950.

SCS4x and SCS6x



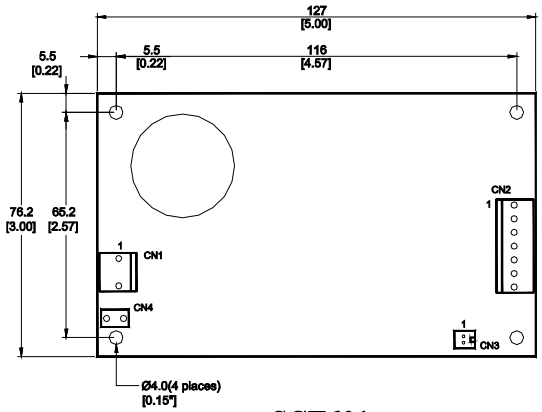
PIN ASSIGNMENTS	
CONNECTOR	SCS40xx & SCS60xx
CN1–1	AC LINE
CN1–3	AC NEUTRAL
CN2–1	+V
CN2–2	+V
CN2–3	+V1
CN2–4	COMMON
CN2–5	COMMON
CN2–6	COMMON
CN3–1	+V SENSE
CN3–2	–V SENSE

SCD40, SCD60, SCT4x and SCT6x



PIN ASSIGNMENTS			
CONNECTOR	SCD40 & SCD60	SCT4x & SCT6x	SCT401 & SCT601
CN1-1	AC LINE	AC LINE	AC LINE
CN1-3	AC NEUTRAL	AC NEUTRAL	AC NEUTRAL
CN2-1	+V2	+V2	+V2
CN2-2	+V1	+V1	+V1
CN2-3	+V1	+V1	+V1
CN2-4	COMMON	COMMON	COMMON V1, V2
CN2-5	COMMON	COMMON	COMMON V1, V2
CN2-6	N.C.	-V3	+V3
CN2-7	N/A	N/A	COMMON V3
CN3-1	-V1 SENSE	-V1 SENSE	-V1 SENSE
CN3-2	+V1 SENSE	+V1 SENSE	+V1 SENSE

SCT401



SCT601

