sepura

Desk Mount Unit Installation Guide

SCG22 Series Transceiver
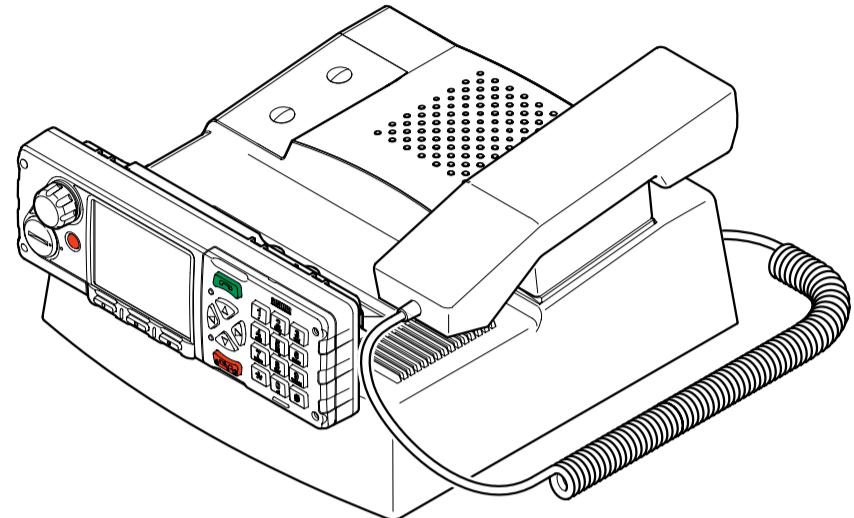
Sepura Limited

9000 Cambridge Research Park
Beach Drive, Waterbeach,
Cambridge, CB25 9TL
United Kingdom.

+44 (0) 1223 876000

www.sepura.com

SPR-DOC-04496 2.0 (English)

- 1 -

Safety Information

READ THE TETRA PRODUCT SAFETY GUIDE (SPR-DOC-00170) SUPPLIED WITH THE SCG22 FOR IMPORTANT INFORMATION ABOUT SAFELY OPERATING THIS PRODUCT.

ALWAYS POWER OFF the mobile radio in environments where RF wireless devices could potentially cause an explosion. Potentially hazardous areas are not always signed. Obey all signs and instructions relating to the usage of RF wireless devices.

In order to reduce the risk of RF burns, the antenna must always remain connected when the equipment is powered on. DO NOT connect or disconnect the antenna whilst the equipment is powered on.

Potential risk of injury. DO NOT touch the heatsink fins when the transceiver is powered on.

ONLY fit an approved accessory. If a non-approved accessory is fitted, it may compromise the product safety ratings and may void any product warranty.

DO NOT attempt to dismantle this product. Servicing and repairs to this product must be performed by trained service technicians at Sepura approved service centres.

Exposure to RF Energy

Sepura designs and manufactures products to meet strict guidelines and international standards relating to Radio Frequency (RF) energy and the potential health risks associated with using RF wireless devices. If you have any concerns relating to long term health risks associated with using RF wireless devices, you should obtain advice from your employer.

Operation

It is the responsibility of the person operating the product to ensure that it is operated safely at all times, and that local laws and regulations governing the usage of Radio Frequency (RF) wireless devices are observed. Obey all signs and instructions relating to the usage of RF wireless devices.

Regulatory Compliance

This product must be installed in accordance with national and local radio communications authorities and/or Health and Safety regulations. This product may affect public broadcast radio, security code alarm systems and some engine management systems.

Unpacking

Unpack the container(s) and ensure that all items specified on any delivery note are present and received in good condition. If any of the goods are damaged or not supplied, contact your service provider within 10 days of receipt of equipment. Consoles or accessories are not shipped in the container with the SCG22 mobile radio due to the many combinations available. Note that the accessory pack must be specified at the time of ordering.

ALWAYS keep documentation supplied with the product for future reference and pass on to any person who is responsible for operating the product.

Installation Precautions

⚠ **WARNING!** This equipment is not suitable for use in locations where children are likely to be present.

⚠ **CAUTION!** Risk of product damage. When carrying out installation requiring the removal of product covers, ESD precautions must be taken.

⚠ **CAUTION!** Only use hand tools and do not over-tighten screws and fixings.

READ ALL THE INSTRUCTIONS before attempting to install the SCG22. If you do not understand the instructions, STOP and contact your service provider or Sepura for assistance.

The Desk Mount Unit Installation Guide provides critical safety information and instructions for installing the SCG22 into a Desk Mount Unit (DMU). It is intended to be used in conjunction with the Mobile Radio Full Installation Guide.

The Mobile Radio Full Installation Guide (SPR-DOC-04384) provides all the additional information and instructions required to install the SCG22, including:

- Full safety information
- Parts supplied
- Model variants and options
- Connecting leads
- GNSS, Bluetooth and Wi-Fi antenna installation
- Fitting a SIM Card or SIM card reader
- Cable and connection information
- Programming, customising and data connections

To view, download or print the Mobile Radio Full User Guide, visit:

https://ic.sepura.com/login

[QR code]

Introduction

Desk Mount Unit

The Desk Mount Unit is designed to provide an integrated Mobile Radio desktop solution, suitable for office or control room environments. The unit has a built-in loudspeaker and is supplied with a Power Supply Unit (and power cable), and cabling for the attachment of the SCC3. A Pivot Mount Kit provides support for the SCC3, allowing operators to adjust the viewing angle.

Additional equipment is required for a basic installation of the Desk Mount Unit. The SCG22 slots into the back of the unit, and has a separate external power supply. The SCC3 is connected to the SCG22 and attaches to the front of the Desk Mount Unit using the pivot mount supplied. There are various optional audio accessories available such as a Handset and Fist Microphone that can be connected. A suitable antenna must be connected to the SCG22.

Important Information

Mobile Radio Internal Back-up Battery

⚠ **CAUTION!** This equipment contains a backup battery. The battery must not be replaced by the user. The equipment must be disposed of using correct WEEE requirements. The equipment must not be dismantled, or left in any extreme environmental conditions.

The SCG22 mobile radio has a small rechargeable internal back-up battery. This battery powers the internal Real Time Clock in the event that the main power to the product is removed.

The battery may have discharged during the manufacturing process or if the product has been in storage for some time. When the product is connected to its main supply, the back-up battery will charge regardless of whether the product is powered on or not. The charge period for a full charge may be up to 48 hours.

Parts Supplied

The following items are supplied with the Desk Mount Unit (part no. 300-00073 or 300-01975):

Part no.	Description	Qty	Polythene bag, containing:
300-01777	Desk Mount Chassis assembly	1	M3x10 Pan Pozi Zinc/Clearscrew	4
300-01117	Console Pivot Mount Kit	1	M3 Full Nut, Zinc	4
300-00067	0.5m Remote (console) Cable	1	M4 Full Nut, Zinc	2
700-00212	Audio Accessory Link Cable (fitted)	1	M4x30 Pos Pan, Zinc/Clear pas Screw	2
300-00077	Power Supply Unit including regional power cables	1	M4x12 Pos Pan, Zinc/Clear pas Screw	2
			Plastic Hole Plug, 3.3mm Hole	4
			Plastic Hole Plug, 5mm Hole	2

Additional Equipment

The following equipment is required for a basic installation of the Desk Mount Unit.

Part no.	Equipment		Part no.	
300-00065	RS232 Serial data/programming cable		390-0000A	Antenna, fixed building
300-02009	SCG USB Programming Lead		390-0000B	Antenna, magnetically mounted, control room
300-00730	USB VAC data cable (for programming the SCG22 using the VAC connector on the SCC3		300-00089	Power Supply Unit cable IEC C13 (US)
As advised	Sepura Colour Console 3 (SCC3)		300-00988	Power Supply Unit cable IEC C13 (Australia)
As advised	SCG22 Mobile Radio			

Note: For more information including audio and PTT accessory options, see the Product Bulletin - SRG39 and SCG22 Series Accessories, MOD-20-2351.

SCG DMU Cables / Kit

The SCG DMU Cables / Kit (300-02016) is required to integrate the SCG22 into a Desk Mount Unit. The kit consists of two cables to connect power, loudspeaker and IO to the D-connectors on the rear of the SCG22.

For more information, see "Cabling the SCG22" on page 5.

SCG22 Variants

Note: Sepura supply a range of SCG22 mobile radios to suit various installations. Contact Sepura for information and part numbers of the SCG22 that suits your installation.

The following variants of the SCG22 are compatible with the Desk Mount Unit:

- Single Console
- Single Console + Bluetooth Wi-Fi + SD Card
- Single Console + SD Card
- Single Console + Bluetooth Wi-Fi + SD Card + ESM

- 2 -

Optional Accessories

Sepura provide a range of audio accessories such as Handsets, Desk Microphones and a Footswitch PTT. Contact Sepura for advice on which accessories will suit your installation.

Installation

Before you start to install the Desk Mount Unit, read through these instructions and ensure that you have the correct equipment including accessories.
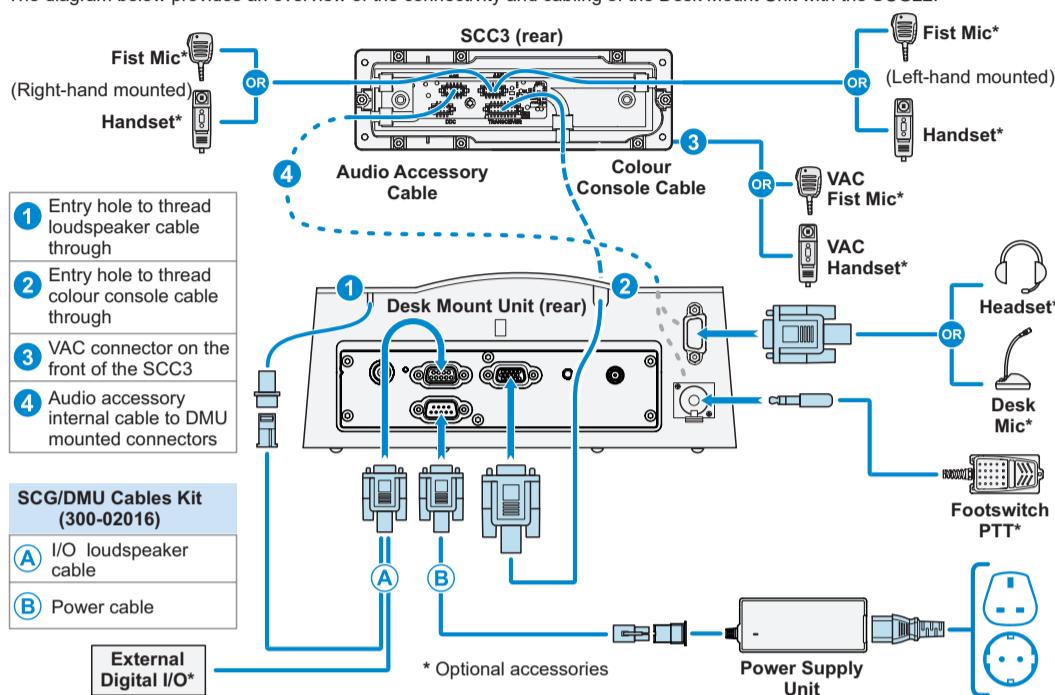
SCG22 Antenna Connections

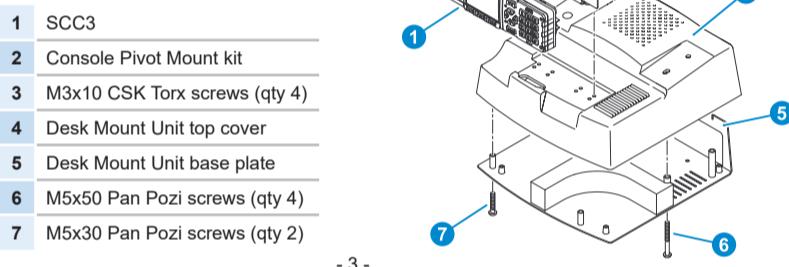The diagram below shows additional connections to the SCG22.

*Optional connection depending on the model variant.
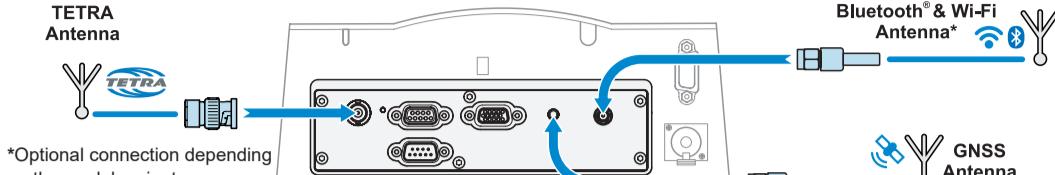
Connections Overview

The diagram below provides an overview of the connectivity and cabling of the Desk Mount Unit with the SCG22.

| 1 | Entry hole to thread loudspeaker cable through |
2	Entry hole to thread colour console cable through
3	VAC connector on the front of the SCC3
4	Audio accessory internal cable to DMU mounted connectors

SCG/DMU Cables Kit (300-02016)

| A | I/O loudspeaker cable |
| B | Power cable |

* Optional accessories

Assembly Overview

The illustration shows the main components required to assemble the Desk Mount Unit.

1	SCC3
2	Console Pivot Mount kit
3	M3x10 CSK Torx screws (qty 4)
4	Desk Mount Unit top cover
5	Desk Mount Unit base plate
6	M5x50 Pan Pozi screws (qty 4)
7	M5x30 Pan Pozi screws (qty 2)

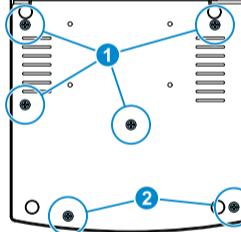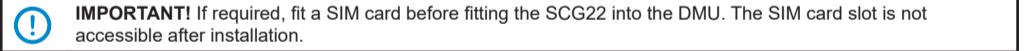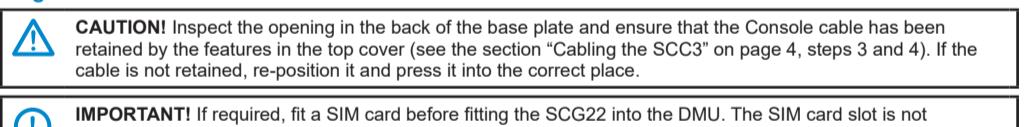### Replacing the Top Cover

1. Lower the top cover back onto the base plate, taking care not to trap the foam or cables. Ensure that the Speaker cable and Console cable exit through the slots provided in the back of the base plate.
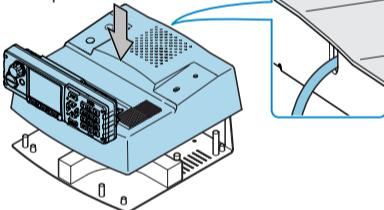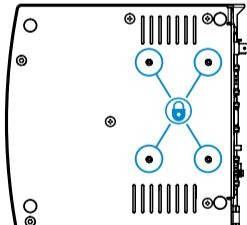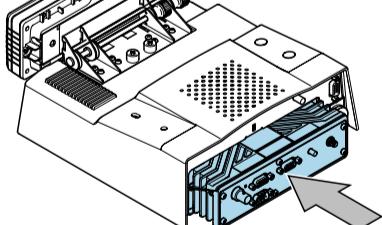
2. Replace the four M5 x 50mm screws into the holes provided at the rear of the base plate and the two M5 x 30mm screws into the holes provided at the front of the base plate.


Fitting the SCG22

⚠ **CAUTION!** Inspect the opening in the back of the base plate and ensure that the Console cable has been retained by the features in the top cover (see the section "Cabling the SCC3" on page 4, steps 3 and 4). If the cable is not retained, re-position it and press it into the correct place.

❗ **IMPORTANT!** If required, fit a SIM card before fitting the SCG22 into the DMU. The SIM card slot is not accessible after installation.

1. Slide the SCG22 into the back of the Desk Mount Unit assembly, with the connectors facing outwards.

2. Align the four bosses in the bottom of the SCG22 and secure with the four M4 x 10mm screws, provided with the flat Surface Mounting Kit, which is supplied with the SCG22.

Cabling the SCG22

⚠ **WARNING!** Ensure that the Power Supply Unit is powered OFF and isolated from the product.
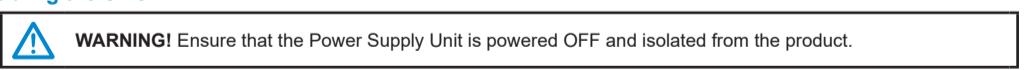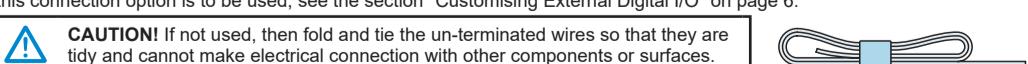
For more information on connections to the SCG22 and accessories, refer to the diagram in the section "Connections Overview" on page 3.

1. Connect the Console Cable to the Console 1 connector.

2. Connect the Power lead (supplied with the SCG DMU Cables / Kit) into the Power connector.

3. Connect the I/O Loudspeaker lead (supplied with the SCG DMU Cables / Kit) into the I/O1/SPK1/PRG connector.

4. Connect the loudspeaker cable flying plug into the 2-pin loudspeaker connector at the rear of the chassis. For more information on terminating the IO cable, see "External Digital I/O" on page 6.

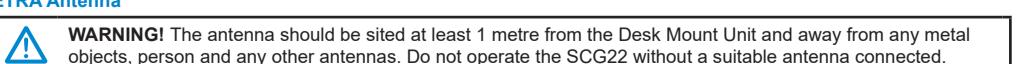5. Connect the other end of the PSU lead to the external power supply unit.

✏ **Note:** If required, Console 1 Interface is used for the manual loading of end-to-end encryption keys. Therefore it may be necessary to temporarily remove the Console cable while the keys are loaded.

External Digital I/O

If this connection option is to be used, see the section "Customising External Digital I/O" on page 6.

⚠ **CAUTION!** If not used, then fold and tie the un-terminated wires so that they are tidy and cannot make electrical connection with other components or surfaces.

TETRA Antenna

⚠ **WARNING!** The antenna should be sited at least 1 metre from the Desk Mount Unit and away from any metal objects, person and any other antennas. Do not operate the SCG22 without a suitable antenna connected.
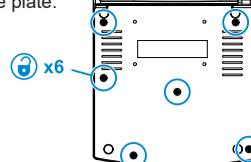
1. Connect the antenna to the TETRA Antenna connector on the SCG22.

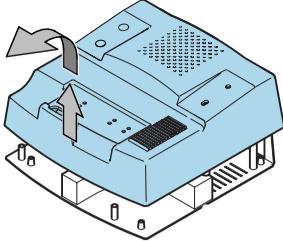2. Route the antenna cable away from the power cable.

Releasing the Top Cover

1. Remove the six screws, on the under side of the base plate.

🔩 x6

2. Lift and rotate the top cover, pivoting from the front edge, until it is at 90 degrees to the base plate.
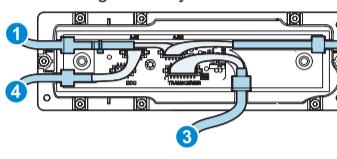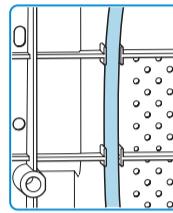

Cabling the SCC3

⚠ **CAUTION!** To prevent damage, all cables must be routed correctly using the channels within the internal moulding.

⚡ **CAUTION!** ESD precautions must be taken during replacement of the rear cover.

2. Route the cables through the channels on the internal moulding of the SCC3. Press the cable bung into the recess in the channel. Fit bungs into any unused cable channels.

1. Thread the Console cable (small connector end) through the hole in the top cover of the Desk Mount Unit.

1	Right-hand accessory entry
2	Left-hand accessory entry
3	Colour Console cable
4	Audio Accessory cable

3. Thread the Console cable into the two retaining features in the under side of the top cover.

4. Press the Console cable down into the area shown. Ensure that there is approximately 170mm of cable, plus the D-type connector, coming out from the back of the base plate, to make it easier to terminate the cable into the SCG22.
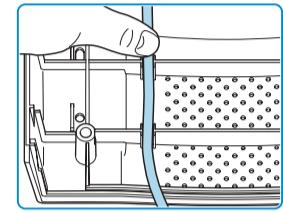
Attaching the Console Pivot Mount

The Pivot Mount kit includes a flat bracket and screws that are not used in this installation, and can therefore be discarded. The SCC3 can be offset to either the left or right depending on the desired positioning of the handset.

1. Align and secure the Pivot Mount to the top cover using the four M3 x 10mm screws and the M3 nuts. Make sure that it is on the desired side for ease of use.

2. Proceed to "Fitting the SCC3" on page 5 unless a Handset or Fist Microphone option is included.

Adding a Handset (optional)

1. Disassemble the Handset Base and secure to the top cover using the two M4 x 30mm screws and the M4 nuts. Make sure that it is on the desired side for ease of use.
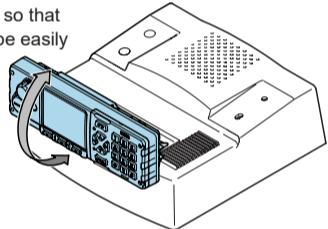
2. Plug the cable into the rear of the colour console and route it as shown in the section "Cabling the SCC3" on page 4.

Fitting the SCC3

1. Using the screws provided, attach the SCC3 to the Pivot Mount Bracket.
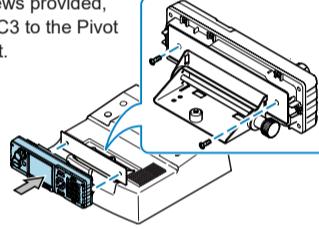
2. Adjust the Pivot Mount so that the SCC3 screen can be easily seen by the operator.

Customisation

The SCG22 is programmed and customised using the radio programming software application, Radio Manager. To program and customise the SCG22 you will need the Radio Manager software loaded onto a PC or laptop and a programming cable. See the section "Additional Equipment" on page 2 for programming cable options. Refer to the Radio Manager user instructions for information on how to program the SCG22.

The two main areas that may need adjusting are the audio levels and the microphone gain. If any changes are made to the default settings listed, it will be necessary to re-program the SCG22.

Audio Levels

The levels of receive speech volume, alert tone volume and microphone gains can be adjusted to suit the installation environment. The parameter reference number is provided to help identification when using Radio Manager.

Speech and Alert Volume

The following parameters can be found under the 'PROFILE' template.

Parameter Name	Index	Default
Minimum Speech Level	8000	-45dB
Maximum Speech Level	8010	0dB
Minimum Alert Volume	8020	-30dB
Maximum Alert Volume	8030	0dB

Microphone Gain Settings

The following parameters can be found under the 'PRODUCT' template.

Parameter Name	Index	Default
Desk Microphone Gain	7155	30dB
Headset Microphone Gain	7230	30dB
Vehicle Adaptor Fist Microphone Gain Setting	7145	30dB
Vehicle Adaptor Microphone Gain Setting	7150	30dB

Customising External Digital I/O

Variants of the SCG22 compatible with the DMU provide two programmable I/O lines. Both individual I/O lines can be configured as either an input or an output, as required in the installation.

Hardware Characteristics for the I/O Lines

Digital I/O Wiring Colours

Pink/White: **I/O 0**
Orange/White: **I/O 1**

The following characteristics apply to all the individual I/O lines, dependent on whether they are configured as inputs or outputs:

Input
- 22kΩ impedance
- VIH min = 2.0V
- VIL max = 0.8V
- Protected against accidental application of external supply voltage, 15.6 V maximum
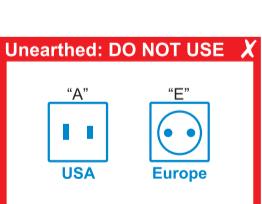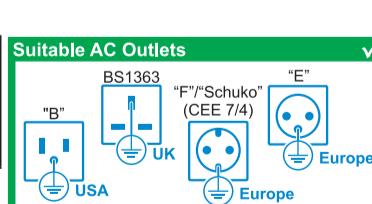- Assertion time: >100ms

Output
- 22kΩ in high impedance state
- Max sink current = 500mA, active low
- Max external voltage = 15.8V
- Internally protected against inductive loads, and with a re-settable fuse
- VOL max = 200mV @ 0.5A

⚠ **WARNING!** An external relay must be fitted on the output to control devices requiring greater than 0.5A to ensure correct operation.

AC Power Connections

⚠ **WARNING!** This equipment is approved for connection to earthed mains outlets only. Earthing is required to ensure safety and correct function.

Suitable AC Outlets ✓

"B" — USA
BS1363 — UK
"F"/"Schuko" (CEE 7/4) — Europe
"E" — Europe

Unearthed: DO NOT USE ✗

"A" — USA
"E" — Europe

Power Supply Technical Information

	12V Versions	15V Versions
Input Voltage	100-240VAC, 47/63Hz	100-240VAC, 50/60Hz
Input Current	1.9A Max	3.0A Max
Output Voltage	12VDC	15VDC
Output Current	6.66A	9.0A

SCG22 Power Input Technical Information

Input Voltage Range: 10.8 - 15.6V DC   **Nominal Input Voltage:** 12V DC   **Rated Power:** 90W