SFC 4000 - Technical Specifications

INPUT:

- Input Voltage..... 1-phase 230V +/-15%, (115V to order)
- Input Frequency..... 50 or 60Hz, +/- 6%
- Input Current Harmonics..... IEC 1000-3-4
- Input Power Factor..... >0.98
- Rectifier Inrush..... 10 second walk-in, max current < In x 1.2
- Input Connections..... Lead and sockets or hard wire
- Input Protection..... Circuit breaker, rear panel

OUTPUT:

- Output Voltage..... 115/200V or 120/208V, 3 phase + N
- Output Voltage Regulation..... Steady-state: +/-2%, dynamic 0-100% step load: +/-5% recovering to steady-state within 10mS
- Variable Voltage Option..... Front panel knob gives +/- 15% variation
- Total Harmonic Distortion..... <3% linear load
- Output Frequency..... 400Hz +/- 0.1%, quartz generated
- Variable Frequency Option..... Front panel knob gives +/- 5% variation
- Output Phase Angle Accuracy..... 120 deg. +/- 1%
- Permissible Load Power Factor..... -0.6 to 1

SECURITY:

- Permissible Overload..... 10% @ 10 min, 50% @ 10 s, 150% @ 1 s
- Output Overvoltage Cutout.....130V L-N on any one phase
- Output Undervoltage Cutout..... 100V L-N on any one phase
- Thermal Overload..... Thermal sensors located in rectifier, inverter and output transformer

ENVIRONMENT & EQUIPMENT:

- Ambient Temperature Range..... -10 to 40 deg C
- Humidity..... <90%, non-condensing
- Altitude..... All specifications quoted at < 2000m above sea level
- Acoustic Noise..... < 48dBA @ 1m
- Overall Efficiency..... 85 to 91% model dependant
- EMC..... Better than EN55-022B
- Cabinet..... Zinc plated steel, powder coated RAL 7032
- Cabinet Protection..... IP21
- Meters..... Digital readout for output Amps, Volts, Hz, Kw, Power Factor & KVA, for each phase
- Wheels..... 60mm nylon, front brakes

DIMENSIONS:

- H385 W300 D510mm
- Weight: 2.5Kva (SFC 4002) - 32Kg, 4Kva (SFC 4004) - 37Kg

OPTIONS:

- In standard format both models have fixed output voltage and frequency. Variable output voltage and frequency must be ordered together as an option. PLC control must also be ordered as an option.
- Special output voltages are available, such as 67/115V or 254/440V for example.

Manufacture:

- This equipment is manufactured in the UK.

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400Hz Static Frequency Converters - *Series SFC 4000*
Single-Phase Input, Three-Phase Output

- **2.5 & 4KVA Ratings**
- **1-phase input, 3-phase output**
- **Optional Variable Output Frequency**
- **Optional Variable Output Voltage**
- **Extremely Compact Case**
- **Sophisticated LCD Display**
- **Power Factor Corrected Input (PFC)**
- **Galvanically Isolated Output**
- **High Reliability IGBT Inverter**

Compact 400Hz for Laboratory or Production Line:

Series SFC 4000 static frequency converters have been designed for continuous duty operation in production line or laboratory applications. They will provide a high quality 400Hz, **3-phase output** from a standard 50 or 60Hz **single-phase input**. The converter output is 4-wire, sinusoidal, highly regulated and galvanically isolated from the input.

Variable Frequency and Voltage Option:

As part of the testing of avionics and other aircraft equipment it is often required to vary the supply voltage and frequency in order to simulate the worst case supply quality that might be found onboard a real aircraft. Thus *SFC 4000* models may be ordered with control knobs that will continuously vary the output frequency from 380Hz to 420Hz and the output voltage from 97V to 132V (line to neutral).

Only a Single Phase Supply Available? No Problem:

SCF 4000 models operate as standard from a single phase supply whilst giving a 3-phase output. Both models will operate directly from a standard European 16A (230V) supply or a UK 13A supply (the 4KVA is slightly limited on maximum power). Equally in North America a 32A, 115V, (60Hz) supply may used.

Output frequency & voltage may adjusted from the front panel

Unity Input Power Factor:

Both *SFC 4000* models have a power factor corrected input. This means that input power consumption is minimised and overall efficiency is maximised. This is particularly important when a limited single phase supply is being used to power the converter.

Sophisticated Digital Display:

An LCD display gives accurate information on all the major output parameters. These include output voltage (L-L and L-N), current, frequency, power factor, Kw and KVA. Each parameter may be displayed for each phase.

High Reliability IGBT Inverter:

SFC 4000 units use a highly reliable IGBT based output inverter which is not only very quiet in operation, but is also able to tolerate extremely non-linear load types. Phase unbalances of up to 50% present no difficulty and the inverter has been dimensioned to withstand very large transient overloads, so that equipment with high start-up currents should rarely present a problem.

Technical Specifications:

See Overleaf.

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