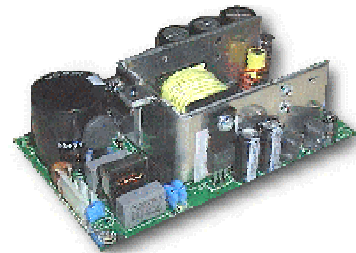


# FR55 SERIES

## 55 Watt Switched Mode Power Supply

### Features:

- High reliability
- Up to four outputs available
- 5" x 3" footprint
- Conforms to International safety regulations
- Compact size / light weight
- Output voltages up to 300Vdc
- Universal mains input



127 x 76.2 x 40mm  
(5" x 3" x <1U)

### Description:

The FR55 series offers a highly efficient single or multiple output supply in an open PCB format with output voltages tailored to customer specification. Features include universal mains input, optional 0.156" Molex, screw terminal or custom loom connection. Options include open collector POK and PF signals, output inhibit, safety cover and PCB insulator. 3<sup>rd</sup> and 4<sup>th</sup> outputs available as fully isolated.

### Specification:

#### Input

Input range : 90 - 264Vac  
Frequency range : 47 - 63Hz  
Earth leakage : 1.5mA typ. @ 264Vac  
Inrush current : <30A max @ 264Vac  
Power factor : 0.67 typ.  
Input current : 1.1A @ 90Vac  
Input fuse : T1.6A

#### Output

Output voltages : 300Vdc max / 6A current max  
Voltage adjustment : +/- 5% (V1 only)  
Initial setting : 0.5%  
Load regulation :  
V1 ±1%, V2 ±4%, V3 & 4 ±5% from 60% load to ±40%  
Line regulation : <0.5% over input range  
Ripple and noise : 0.2% rms, 1% peak DC-30MHz  
Transient deviation : 5% for 50% load variation  
Transient time : 2mS  
Over-current protection :  
Discontinuous mode short circuit or 110% power  
Output power : 55W max

#### Options

Fully isolated V3 & V4 outputs  
Connections via 0.156" Molex or 3.81mm screw terminals  
Available with flying lead terminations if required  
Open collector POK signal (V1 < 5%)  
Open collector PF signal (5mS before mains fail)  
Output inhibit  
Safety cover / nomex PCB insulator  
Thermal protection

#### Output ratings

Single output available  
Output voltages up to 300Vdc  
Max 6A current

#### General

Efficiency: 80% typical  
MTBF: >100,000 hrs to MIL217E @ 25°C  
Dielectric strength:  
4.25Kvdc input to Output  
2.25Kvdc input to Earth  
500Vdc output to Earth

#### Environmental

Operating Temperature:  
-20c to +60°C De-rate at 2.5% /°C above 50°C  
Storage Temperature:  
-25°C to + 85°C  
Operating humidity:  
0 to 95% RH non-condensing

#### Safety & EMC

Isolation, input to earth : 2.5kVdc, >2.5mm  
Isolation, input to output : 4.25KVdc, >6.4mm  
Isolation, output to earth : 500Vdc  
(unless commoned)  
Units designed to meet: EN60950, UL60950,  
CSA 22.2 No. 950 & 234  
Emissions designed to meet: EN55022-B  
(conducted) EN55022-A (radiated)

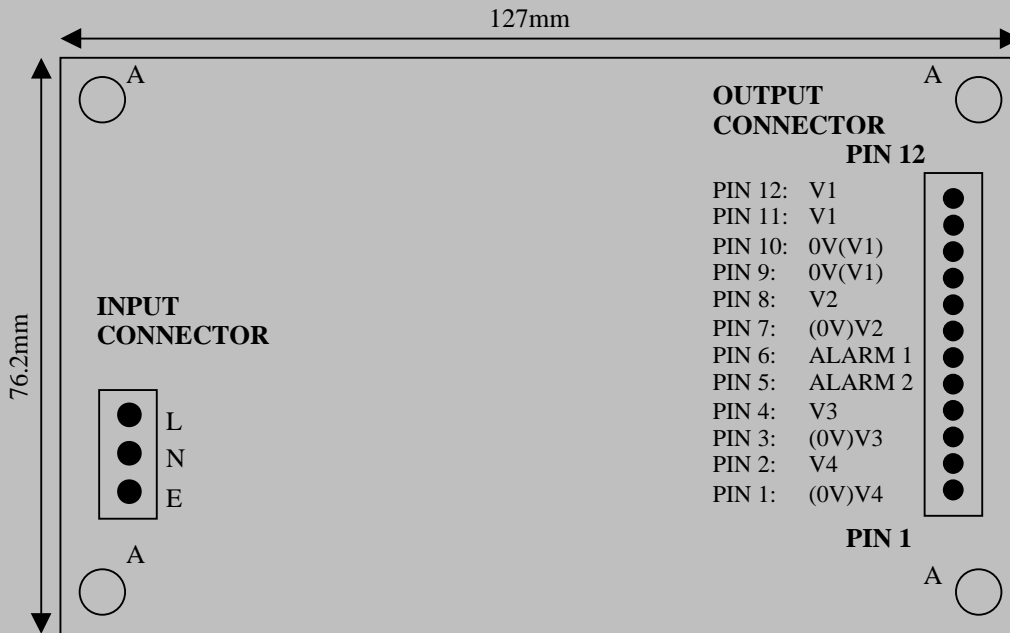
#### Immunity designed to meet:

EN61000-4-2 (ESD)  
EN61000-4-3 (RAD)  
EN61000-4-4 (FAST TRANS)  
EN61000-4-5 (SURGE)  
EN61000-4-6 (CONDUCTED)  
EN61000-4-8 (MAGNETIC)  
EN61000-4-11 (VOLTAGE DIPS & FLUCTUATIONS)  
EN61000-3-2 ( MAINS HARMONICS )  
EN61000-3-3 ( VOLTAGE FLUCTUATIONS )

# FR55 Series

## Mechanical Details and Connections

### TOP VIEW



### SIDE VIEW

