

# SINERCOM S.R.L.

## ENERGY STATION

SWITCHING  
MODE RECTIFIER



## ES3024 SERIES

240VDC / 10A



### Key Features

- Hot-swap Switched mode rectifier(SMR)module
- Designed for HVDC(High Voltage DC Output)applications
- Output voltage 220VDC~240VDC/10A
- Microprocessor based
- Active or passive load sharing
- Easy for maintenance and system extension

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## Specifications

| Model                  |   |
|------------------------|---|
| Input                  |   |
| Voltage                | Single phase: Active, Neutral and Earth<br>Rated Voltage Range: 207 – 253VAC; 1Rated voltage tolerance: 185 – 275VAC; 1Extended low voltage tolerance: 90 – 185VAC; (With power limit increasing from 50% to 100%); 1Extended high voltage tolerance: 275 – 290VAC; Must start voltage: 90VAC; Fully protected up to 300VAC;  |
| Current                | 15A RMS max at 185VAC; 13A RMS at 220 VAC;  |
| Frequency              | 50 / 60Hz 10%   |
| Power Factor           | > 0.99 at 40% - 100% load   |
| Efficiency             | Better than 90% at > 50% load at 230VAC   |
| Harmonic Distortion    | Current THD < 5% typically at full load when operated with mains voltage THD < 1%   |
| Inrush Current         | < 10A peak at maximum rated mains voltage   |
| Soft Start             | Ramp-up time 8 seconds to full load   |
| Protection             | HRC input fuse with fuse option for both lines; Overvoltage shutdown at approx. 300VAC; Undervoltage shutdown at approx. 85VAC; Input soft start – can be connected to live AC bus  |
| Voltage Withstand Test | 1500VAC input to chassis for 1 minute; (2200VDC 100% testing on production units)   |
| Conversion Frequency   | 70kHz for input stage; 288~120kHz for output stage  |
| Output                 |   |
| Voltage                | Float : 220 - 280V; Equalise : 220 - 272V   |
| Current Limit          | Range : 4 - 10A   |
| Power Limit            | Current limit is automatically reduced in inverse proportion to output voltage at 230V to limit output power to 2400 watts;   |
| Static Regulation      | Line : better than 0.1%; Load : terminal voltage drops by 0.65V 0.03V from zero to full load (for passive current sharing) for stand alone units, or regulates to better than 0.05% for MiniCSU controlled units;   |
| Dynamic Regulation     | 5% for 10% to 90% to 10% step load change; 1% of final value within 20ms of step change; 0.1% for a 25% step change in AC input voltage;  |
| Noise                  | < 500mV RMS (100Hz – 10kHz); < 500mV RMS (10kHz - 100MHz); < 2000V peak to peak (10kHz - 100MHz);   |
| Load Sharing           | Better than 5% of full scale with active current sharing from MiniCSU;  |
| Protection             | Fuse at output of SMR protects against reverse polarity connection and protects DC bus when internal components fail; Relay in output circuit prevents surges when connection is made to a live DC bus; Overvoltage - only faulty unit shuts down; Overcurrent - can sustain short circuit at output terminals indefinitely.<br>Over-temperature - gradual reduction of power limit if heatsink temperature exceeds pre-set limit |
| Voltage Withstand Test | 1500VAC output to chassis for 1 minute; (2200VDC 100% testing on production units)  |
| Mechanical             |   |
| Size                   | Width:144mm x Height:86mm (2U) x Depth:435 mm; Mass:< 6kg   |
| Acoustic Noise         | < 65dB ( A Weighted)  |
| Magazine size          | The SR3024Mag-3W-240V magazine allows 3 rectifiers to fit side by side in a standard 19 inch rack and one row of rectifiers in every 2U of rack height.<br>The magazine fits a rack 500 mm or greater in depth.   |