



Allis Electric Co., Ltd.

**SWITCHING
MODE RECTIFIER**



ES1948 Series

48V/39.6A

Key Features

- Innovative single phase input stage with wide input range (90-275Vac).
- Power factor > 0.99. Sinusoidal input current.
- Meet UL.
- High efficiency.
- Microprocessor based.
- Active or passive load sharing.
- Rear "push in to plug in" connection for AC, DC and communications link.
- Mass less than 1.9kg.
- Exceptional power density (>18W/in³).





Specifications

Model	
Input	
Voltage	Wide Input Range: 90 to 275Vac (90~185Vac at de-rated output power)
Current	<12Arms peak at nominal mains voltage
Frequency	44~66 Hz
Power Factor	>0.99 at full load; sinusoidal wave shape
Input Protection	HRC fuses at input of SMR(line and neutral); power circuit is turned off if the AC voltage exceeds 275Vac or falls to less than 90Vac.
THD	<5% at full load; satisfies requirements of EN61000-3-2
Efficiency	>91% at nominal mains voltage (50%~90% Load)
Output	
Voltage	Float -Adjustable 48~59V; Equalise -Adjustable 50~61V
Current Limit	Adjustable 5~40A
Power(Max)	1900W at 48~60VDC(input>185Vac); 900W at 48~60VDC(input 90~185Vac)
Load Sharing	Better than $\pm 5\%$ of full scale with active current sharing from MCSU2048.
Static Regulation	Line- $\pm 0.1\%$; Load- $\pm 1.0\%$
Dynamic Regulation	$\pm 3\%$ for 10~90% or 90~10% load variation; $\pm 1\%$ for $\pm 25\%$ step change in AC input voltage.
Output Noise	< 2mVrms Psophometric weighting; < 10mVrms 10kHz - 100MHz; < 100mV peak to peak 0~30MHz bandwidth.
Protection	Overvoltage - only faulty unit shuts down; Overcurrent - can sustain short circuit at output terminals indefinitely; Over-temperature - gradual reduction of current limit if heat-sink temperature exceeds pre-set limit.
Other Specifications	
Surge Protection	EN 61000-4-5
EMC	Emission: EN 61000-6-3, Immunity: EN61000-6-1
Voltage Withstand Test	3.0 kVac – input and output (4.25 kVDC primary-secondary); 1.5 kVac – input earth (2.12 kVDC primary-ground); 0.75 kVDC – output earth.
Safety	UL60950-1 · E221414
Environmental	
Audible Noise at 1 Meter	< 55dBA
Operating Temperature	Operating range - 40°C ~ 70°C; derated power at 50°C ~ 70°C.
Cooling	Two fan cooled, speed controlled and alarmed.
Humidity	0~95% non-condensing
Mechanical	
Dimension (W x H x D)(mm)	41 x 144 x 290
Weight	<1.9kgs(4.19lbs)
Alarms	
Alarm and Status LED Indications on SMR	On (Green) - SMR functioning normally; Alarm (Yellow) - Blinking when any SMR alarm is present. Shutdown (Red) - Stays on when SMR has turned off due to a signal from the MCSU2048 or an internal fault.
Rectifier Alarms	Low/High output voltage alarm; Over voltage shutdown alarm; Current limit alarm; Fan Alarm Temperature alarm; Rectifier failure alarm.

- All information contained in this brochure is purley indictive and can not be used to form any contractual obligations.
- Specification or design can be changed at anytime without notice.

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