

Features

ROAL's Safe Energy Servers are designed to power low voltage lighting, building control systems and audio visual equipment in 24VDC distributed building power systems. The system is compatible within the EMerge Alliance Occupied Space 24VDC standard and will install and operate seamlessly with other EMerge compliant products. The power system incorporates 4 outputs, each rated at 100W at 24VDC.

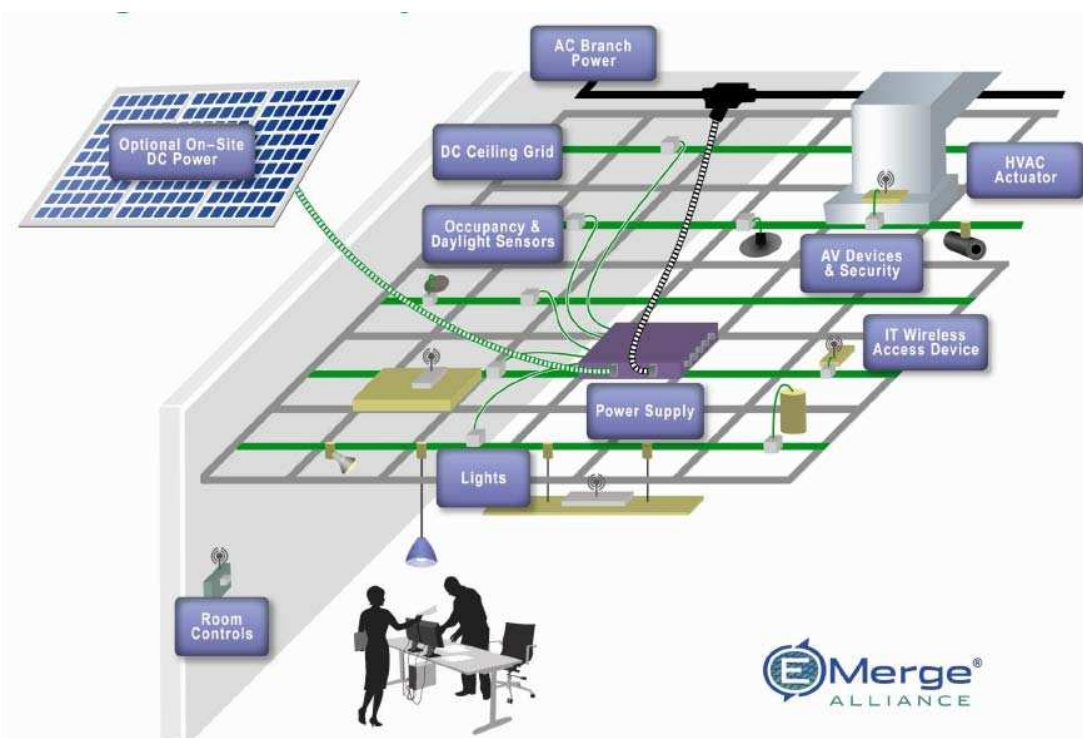
- Universal input (120/240VAC)
- 93% Efficient
- 400W Total output power
- MultiLINQ™ Power Limiting provides safe Class 2 outputs
- Four independent 24V Class 2 outputs
- Multiple SES400 powered from a single AC drop
- Front panel LEDs indicating system status
- Convection cooled
- Small footprint
- EMerge Alliance Registered
- Armstrong DC FlexZone Compatible Partner



MultiLINQ is a patented power limiting technology (US patent no. 7,804,189) for low voltage systems.

Applications and Benefits

The Safe Energy Server is a power supply unit designed to interface directly with the EMerge Alliance distributed DC Power system. The SES400 power supply is ideal for individual offices, classrooms, clouds and lobbies where independent smaller grids may be necessary. One system may be deployed for each 200 to 400 square feet of ceiling grid depending on room design and load requirements.



Electrical Specifications

INPUT POWER:

Input Voltage: 120/240VAC, 47-63 Hz
Input Current: 5A max
Isolation: Meets the UL60950-1
Reinforced / double
Insulation
NEC (Class 2)
Input Power Factor: >0.9
Efficiency: 93% typical

OUTPUT PER CHANNEL:

Output Voltage: 24VDC +/- 3%
Output Power: 94W continuous (each channel)
Output Current: 3.91A max
Capacitive Load: Each output will energize a load consisting of up to 1000uf
Output Protection: Each channel is protected against overload, short circuit, overtemperature and connection of multiple outputs in reverse polarity. Overvoltage protection is latching; all other protective modes are self-resetting.

INDICATORS / CONTROLS:

Power On Indicator (AC Input)
Four Green LEDs (one for each output) indicating individual output status.
One Red LED indicating fault conditions of any output channel.
Test Mode: A pushbutton switch activates the test mode which enables an audible alarm if the current of any channel exceeds 80% of the rating. This function is used when installing peripherals to provide an indication that actual load current is becoming close to the rating.

Environmental

Operating Temperature: -10°C to +50°C
Operating Relative Humidity: 5% to 95%, non condensing
Storage Temperature: -30°C to +60°C
Audible Noise: <40 dbA at 1 meter
Operates in the presence of occasional water exposure from above

Standards

- ANSI / UL 1310: Class 2 Power Units
- ANSI / UL 1012: Power Units other than Class 2
- CSA – C22.2 No. 107.1 (2001): General use Power Supplies
- CAN/CSA – C22.2 No. 223 (1991): Power Supplies with Extra Low Voltage Class 2 Outputs
- UL2043: Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces
- UL2577: Suspended Ceiling Grid Low Voltage Lighting Systems
- EMerge Alliance Registered
- EMI: Radiated and conducted: FCC Class A, EN55022 Class A

Ordering Information

Two optional Grid Mounting Brackets are available for the SES400. Please refer to the following table for the appropriate part numbers to use when ordering the complete system.

Description	Part #	Notes
Safe Energy Server	SES400-4	Includes hardware to attach to mounting bracket
Grid Mounting Bracket for Single SES400	SES400-GMB1	Includes mounting feet and hardware
Grid Mounting Bracket for Two SES400	SES400-GMB2	Includes mounting feet and hardware

Additional Information

For additional information on	Website
ROAL EMerge / DC FlexZone Products	www.roallivingenergy.com/markets/more/greenbuilding
Armstrong DC FlexZone Products	www.armstrong.com/dcflexzone
EMerge Alliance	www.emergealliance.org

Mechanical Details

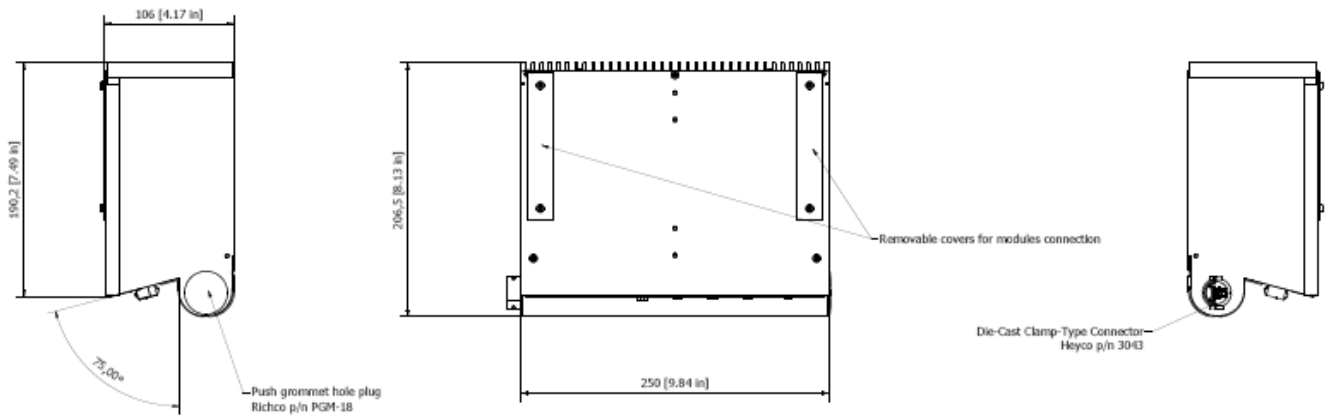
Max dimensions: 9.84" x 8.13" x 4.17"

Construction: Metal enclosure, NEMA Type 2

Mounting Details: Can be mounted to the ceiling grid or deck

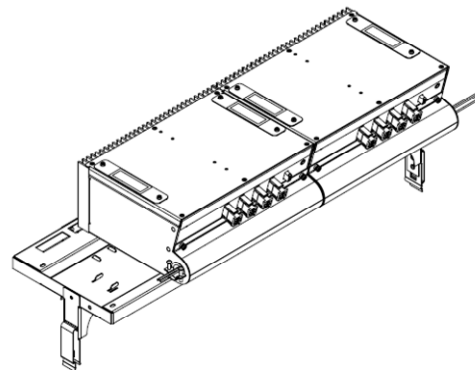
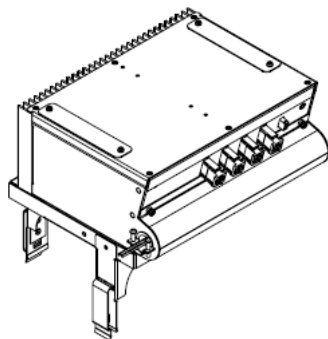
Outline Drawing

Weight: 4.3Kg (9.5 lbs)



Grid Mounting bracket – Attaches to the grid and PS attaches to bracket for ease of system installation. Alternate brackets are available for 1 or 2 SES400-4 Safe Energy Servers.

Single PSM and bracket weight: 5.23Kg (11.55 lbs.)
Two PSM and bracket weight: 10.29Kg (22.72 lbs.)



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