SREGE-350U-01

350 Watt Power Management Unit

Typical Applications:

- Remote Power Generation
- Power Regulation from Alternative sources, ex. wind or solar
- Unmanned Air Vehicles (UAV's) and Unmanned Ground Vehicles (UGV's)

Featuring:

- 3 Phase AC primary input, 25 - 95 VACrms.
- Configurable to support LiPo, LiIon, LifePO4, NiCad, NiMH, SLA, and Lead Acid Battery Backup.
- Two simultaneous output voltages, 20 - 30 VDC 13 Amps and 4.8 - 8 VDC 7 Amps
- MIL-SPEC circular connectors
- Operates up to 91% efficiency at peak power.
- Provides automatic switching for DC ground power, and back up battery sources

Sullivan
UNMANNED VEHICLE

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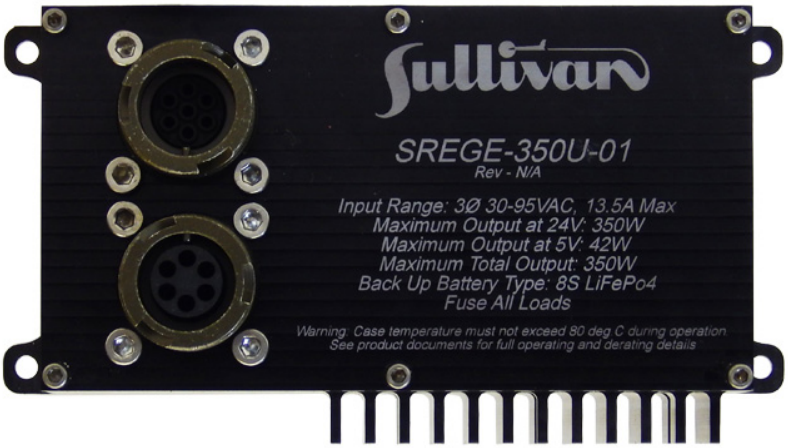
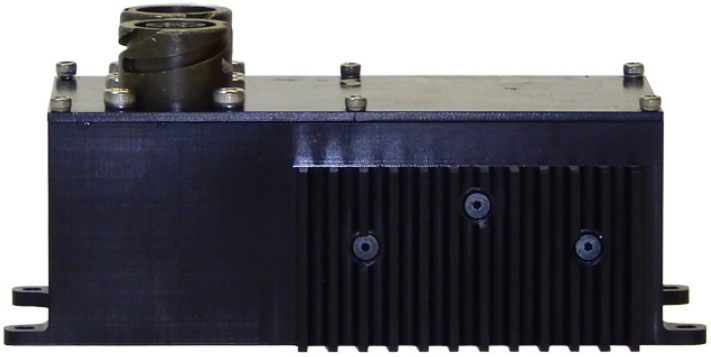
Specifications





Output:	Conditions	Min	Max
Main Output:	13A/350W Max	20 VDC*	30 VDC*
Secondary Output:	7A/42W Max	4.8 VDC*	8 VDC*
Maximum Total Power:			350 Watts
Peak Efficiency:			91%
Self Protection:	Overvoltage, Undervoltage, Overcurrent, Reverse EMF		
Maximum Overload Current:	Up to 10mS duration		125%
Output Ripple, Maximum:	p-p All Outputs		500mV
Voltage Regulation:	All outputs		+/-500mV
Status Signal:	5V High Impedance		
Battery Charger Type:	Basic, Cell monitoring, or Full balance charging options available		
Back-up Battery Charging:	LiPO, LiIon, LifePO4, NiCad, NiMH, SLA, Lead Acid*		900mA

*Factory Adjustable

Input:	Conditions	Min	Max
Alternator Input Voltage:	3Ø 0 - 1 KHz	25 VAC	95 VAC
Backup Battery:	LiPO, LiIon, LifePO4, NiCad, NiMH, SLA, Lead Acid*	24 VDC	32 VDC
External Shore Power:	DC	24 VDC	32 VDC
Battery Switch Time:	No interruption of Output		250nS

Mechanical:	Conditions
Enclosure Material:	Black Anodized Aluminum
Dimensions:	130 mm x 50 mm x 70 mm
Weight:	450g
Connectors:	MIL-SPEC Circular Connectors
Design Standard:	MIL-STD 1275D
Conformal Coating:	MIL-I-46058C Type UR
Cooling:	Convection cooled 2m/s minimum
Operating Temperature:	-20C to 55C Ambient
Storage Temperature:	-40C to 85C

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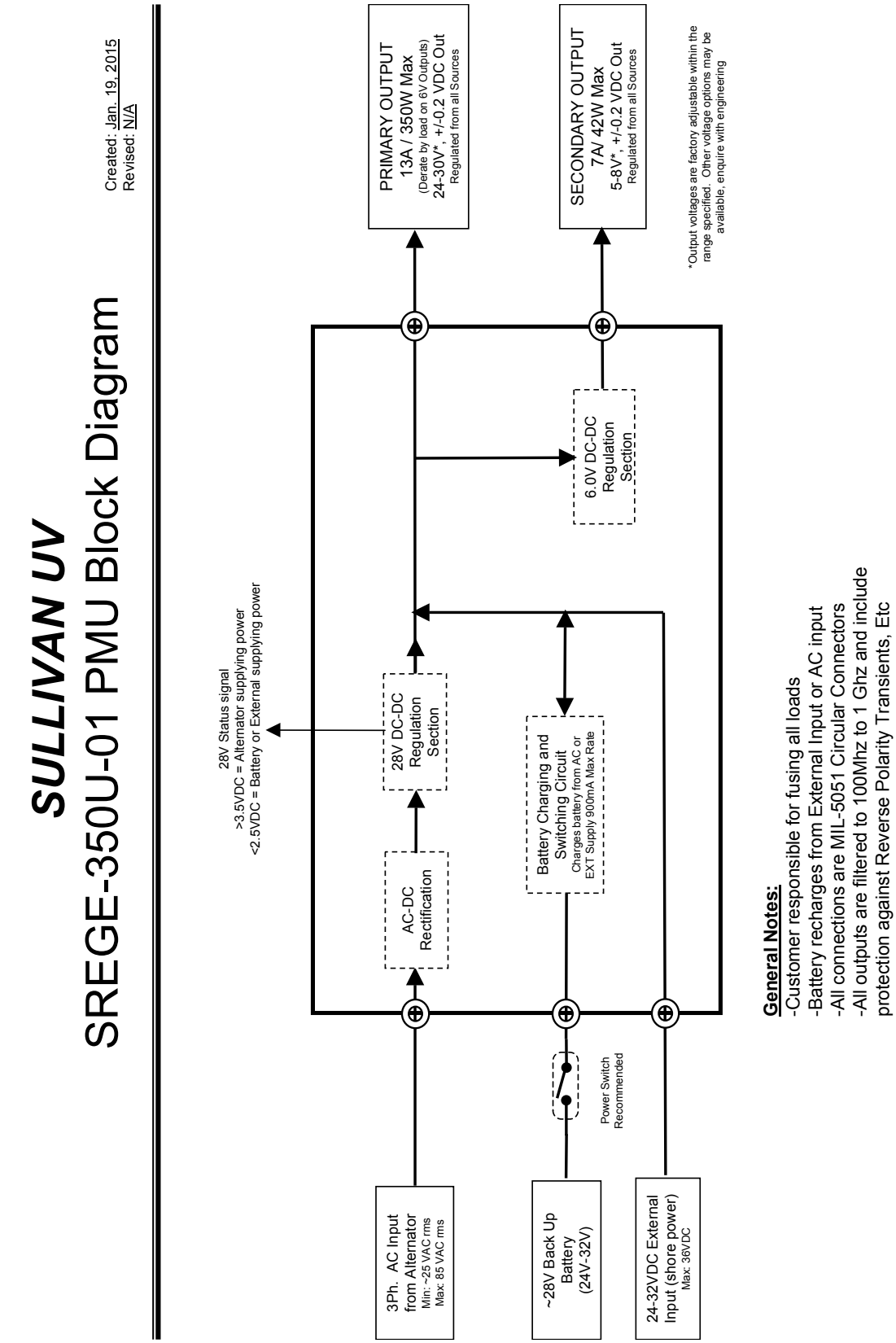

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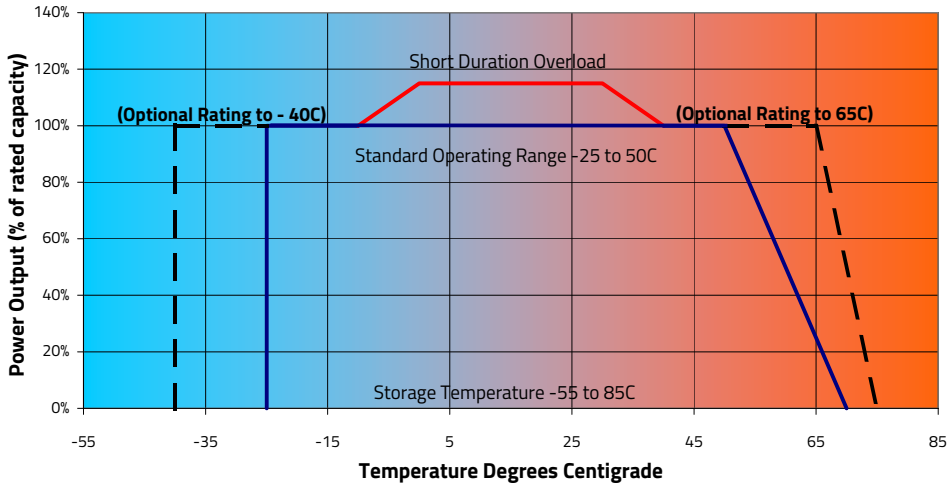
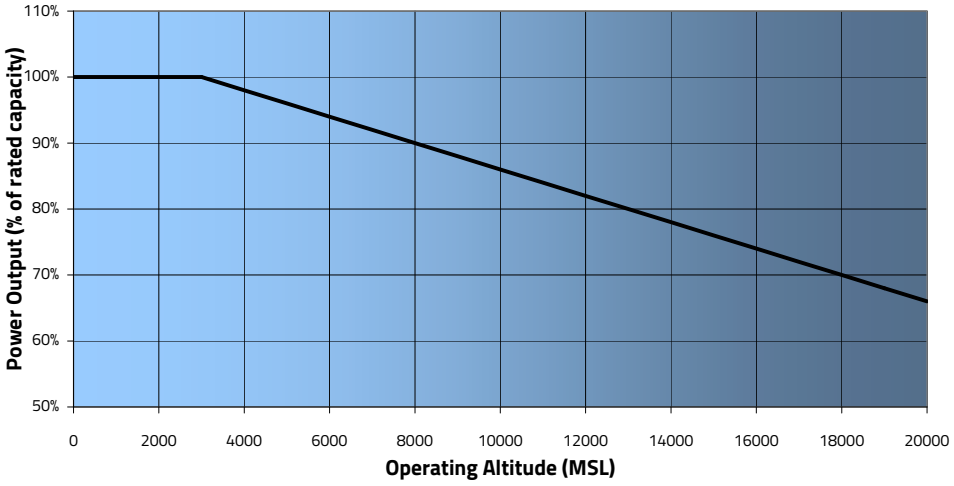
Performance

Allowable Storage and Operating Temperature Profile

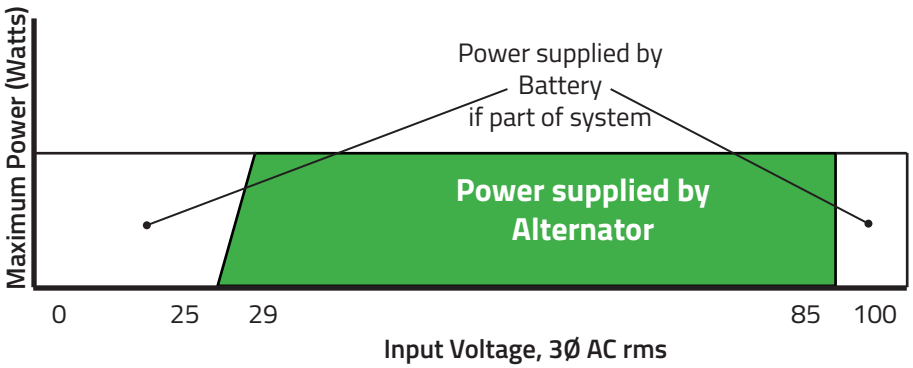


Power Derating due to Altitude



Alternator Input Range

28V Primary Output



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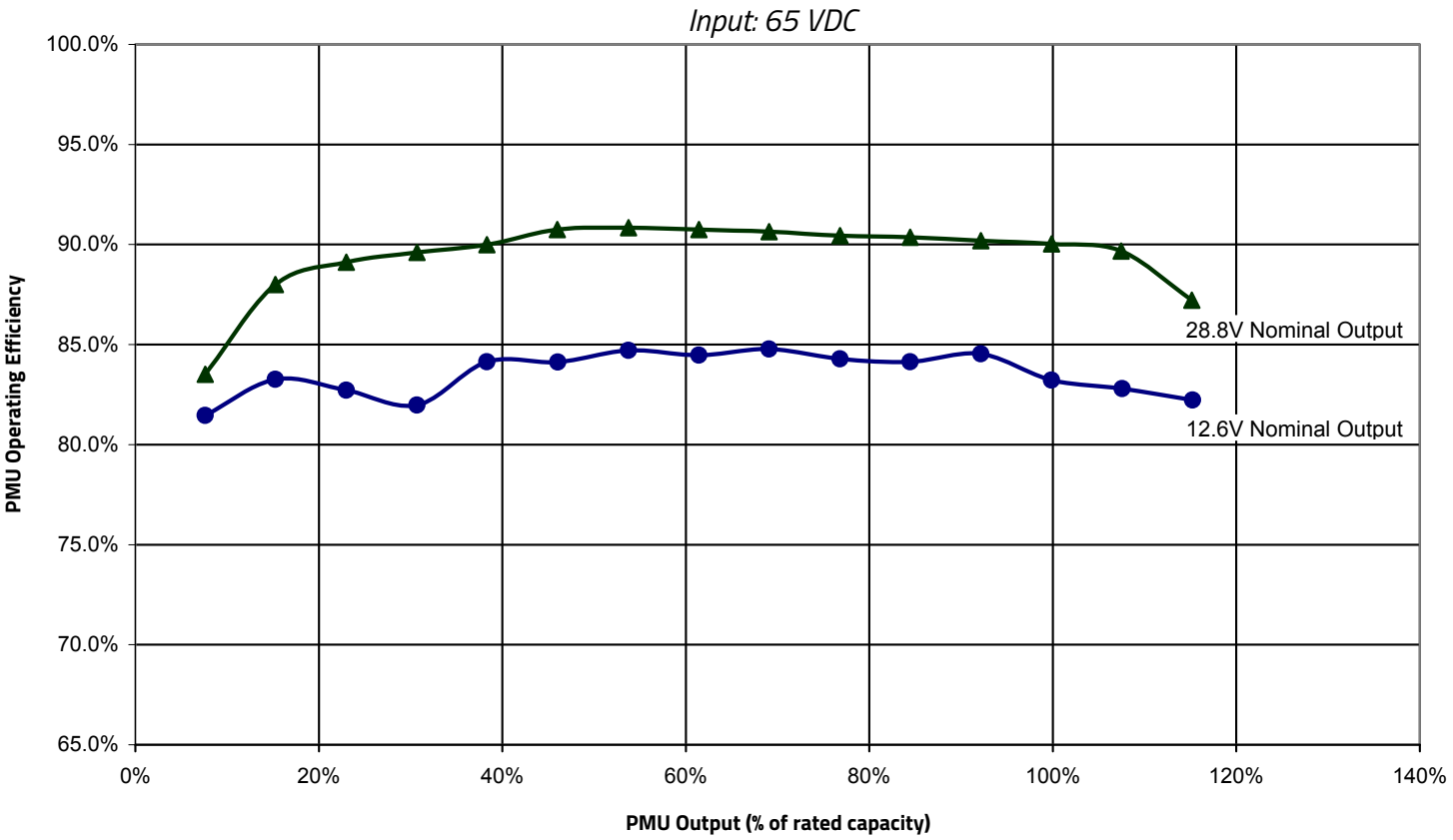
Efficiency

Typical PMU Efficiency vs Output Current



Engine load calculations

Engine load = Output power / Regulator Efficiency / Alternator Efficiency

Example: A 225W electrical load at 90% regulator efficiency and 80% alternator efficiency requires 225 / 0.90 / 0.80 = 312.5W of engine power. At 746W/HP, this is 0.419 HP.

*Ft-Lbs of Torque = Horsepower * 5252 / RPM*

At 3800 RPM, a 225W load with a 90% efficient regulator and 80% efficient alternator, the torque load would be 0.419HP * 5252 / 3800 = 0.579 Ft-Lbs.

1 Ft-Lb = 1.356 N-M

0.579 Ft-Lbs of torque is 0.785 N-M.

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