Power Supply with Battery Charger PSU30A

Datasheet

Features

- 20 Watt desktop AC/DC switch mode power supply with programmable charge electronics integrated
- For semi-smart™ and conventional batteries
- Chemistry independent (LiPolymer, LiIon, NiMH, NiCd, SLA)
- Suitable for use with 1s – 4s Lithium Ion and Lithium Polymer batteries and 1s – 10s Nickel Cadmium and Nickel Metal Hydride batteries
- Large input voltage range

Applications

- Suitable for use with hand held data capture POS, test and measurement and other industrial applications

Specification

Input	
Voltage range	90 - 264V AC
Frequency range	47 – 66Hz
Input current	0.7A max.

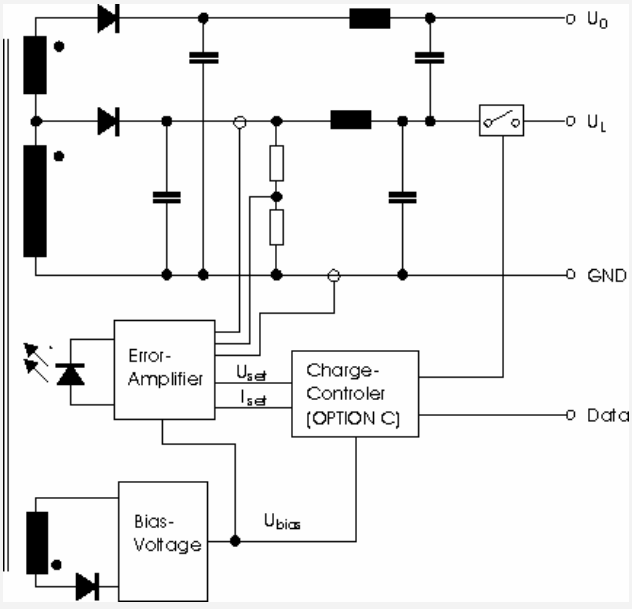
Output		
Voltage	16.8V DC	
Current	U_L: 2.0A / U_0:2.0A	
Power	P_L + P_O: 20W	

Environmental	
Operating temperature	-10°C to 40°C
Operating pressure	570hPa to 1200hPa
Storage temperature	-40°C to 75°C
Storage pressure	115hPa to 1200hPa
Humidity	0 to 95%, no condensation

General		
Protection	Reverse polarity	
Efficiency	75% typ.	
Charge algorithm	LiIon	CCCV
	NiCd & NiMH	CC

Charge characteristics	
Primary charge cut-off methods (NiCd, NiMH)	dT/dt (temperature gradient), -ΔU, d^2U/dt^2 (inflexion point). Additional termination method: T_{max}, C_{max} (charge counter)
Battery Identification	1-wire, HDQ
Regulation	Line: Output U_L: < 0.1% Output U_0: < 0.1% Load: Output U_L: typ. 1.5% Output U_0: typ. 1.6%
Load Transient Response	Load Change: 50%-100%-50% Voltage Change: < 5% Recovery Time < 1ms
Over Voltage Protection	Hiccup mode when output voltage reaches its over-voltage protection threshold (nominal output voltage * 150%)
Over Current Protection	Output U_L: Constant Current Value: customer specific (0… $I_{a,max}$) Tolerance: 5% Output U_0 : Constant Current Value: ≤ 1.1 $I_{a,max}$ Tolerance: 10%
Short Circuit Protection	Output U_L: Continuous Output U_0: Continuous

Output configuration



Operating diplay LED			
Condition	Green	Yellow	Red
Idle		Flashes	
Initial Charge		Flashes	Flashes
Fast Charge		On	
Topping Charge	Flashes	Flashes	
Maintenance (Trickle Charge)	On		
Under-Temperature			Flashes
Over-Temperature			Flashes
Failure			On

Safety & EMC		
Insulation class		II
Earth leakage current		NA
Enclosure / Touch leakage current		<250µA
Safety standards		ITE version IEC60950-1
Electromagnetic Emissions	Europe USA International	EN55011, class B / EN55022 FCC15 class B CISPR 22, level B
Electromagnetic Immunity	ESD immunity Radiated immunity EFT / Burst Surge Conducted Immunity Magnetic Fields	EN/IEC61000-4-2, 4/8kV, performance criteria B EN/IEC61000-4-3, 3V/m, performance criteria A EN/IEC61000-4-4, 1kV, performance criteria B EN/IEC61000-4-5, 1kV, performance criteria B EN/IEC61000-4-6, 10V, performance criteria A EN/IEC61000-4-8, 1A/m, performance criteria A
Regulatory approvals	Europe Japan International	CE (EN 60950-1) PSE CB (IEC60950-1:2001)

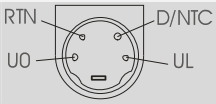
Mechanical Details	
Dimensions (LxWxH)	110 mm x 55 mm x 36 mm
Weight	240 g
Material	PC (Polycarbonate), Makrolon, UL94-V0
Degree of Protection provided by Enclosure	IP 42 according to EN 60529

Connector details

Input connector: 2 Pin Inlet IEC-320-C8

Input cable available as EU, US, UK and AUS type

Output connector



Other connector possible (customer specific)

1. U_L voltage/current source output for battery charging
2. U_0 auxiliary output voltage
3. GND Ground. Common to U_L and U_0
4. D 1-wire Bus
5. T thermistor input (only in dumb version)

Output cable lenght: Typical:ca. 100cm

Germany / Headquarters
RRC power solutions GmbH
Technologiepark 1
D-66424 Homburg / Saar
Tel.: +49 0 6841 9809-0
Fax: +49 0 6841 9809-280
E-Mail: sales@rrc-ps.de

France
RRC power solutions SAS
4, Rue de Charenton
2/3/4, Quai Blanqui
F-94140 Alfortville
Tel.: +33 0 1 3005 6100
Fax: +33 0 1 3005 6101
E-Mail: france@rrc-ps.com

USA
RRC power solutions Inc.
19713 Yorba Linda Blvd. #207
Yorba Linda, CA 92886-3532
Tel.: +1 714 777 3604
Fax: +1 714 777 3658
E-Mail: usa@rrc-ps.com

Hong Kong / China
RRC power solutions Ltd.
9/F Park Tower
15 Austin Road
Kowloon, Hong Kong
Tel.: +852 0 2376 0106
Fax: +852 0 2376 0107
E-Mail: hkrrc@rrc-ps.cn