

Technical Data Sheet

RRC-SMB-UBC – RRC SMBUS Universal Battery Charger



65 Watt SMBUS desktop universal battery charger for smart batteries

Features:

- Single bay fast charger
- For the standard battery form factors RRC2020, 2024, 2040 or smart batteries with a similar footprint (e.g. 202x range, 204x range, 205x range, DR36, etc.)
- Optimized charging process by using RRC batteries:
 - Higher charge cycles
 - Faster charging
- Simple operation – Plug and Play
- Automatic recognition and calibration of smart battery learned capacity
- External power supply for worldwide use
- Country specific AC input cables available

Applications:

- Standard charging station for mobile devices used in medical, industrial and customer areas

Specification RRC-SMB-UBC

Input	
Voltage range	18 - 24VDC
Current	4000mA max.

Output	
Voltage range	0 - 16.8VDC
Power	60W
Current range	0 - 4A
Voltage tolerance ⁽¹⁾	±1% max.
Current tolerance ⁽¹⁾	±10% max.
Protection	Short circuit Over temperature shutdown Input-/output over current Reverse polarity

Environmental	
Cooling	convection cooled
Temperature	Operating: 0°C to 40°C Non-operating -40°C to 70°C
Pressure & Altitude	Operating: 1060hPa to 795hPa -382m to 2000m Non-operating: 1060hPa to 572hPa -382m to 4570m
Humidity	5% to 95% r.H., non-condensing

General	
Efficiency ⁽²⁾	~95% at 100% load
MTBF	> 20000h at 25°C and full load per MIL-HDBK 217F
Indicator	Multi-color LED (green, red, orange)
Battery types	With footprint RRC2020, RRC2024, RRC2040, DR36s, DR202s or similar form factor smart batteries
Green procurement	RoHS2002/95/EC WEEE 2002/96/EC Chinese RoHS

Control Lamp Indications

On time Red-Orange-Green – blinks	Selftest: Charger is ready for use.
Red-Green – blinks	Battery recognition and initialization.
Orange lights	The inserted battery is of the correct type and is currently being charged.
Green lights	The battery is charged and can be removed for use.
Red blinks	The battery is too hot or too cold to be charged without damage. If the battery is too cold it will be charged as soon as it has warmed up sufficiently. If the battery is too hot it should be removed to cool down.
Red lights	The battery is badly damaged or it is a conventional battery which cannot be recharged.

Mechanical Details

Housing dimensions (LxWxH)	151 x 90 x 43mm
Weight	198g (exc. power supply)

Notes:

1. Total regulation tolerance includes initial set accuracy, line and load regulation
2. Power losses of input and output cables are not considered here.

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Safety & EMC		
Regulatory approvals	Europe	CE
Electromagnetic emissions	Europe	EN55011, EN55022, level B
	USA	FCC15 class B
	International	CISPR 22, level B
Electromagnetic Immunity	ESD immunity	EN/IEC61000-4-2
	Electromagnetic field immunity	EN/IEC61000-4-3
	EFT / Burst	EN/IEC61000-4-4
	Surge	EN/IEC61000-4-5
	Conducted Immunity	EN/IEC61000-4-6
	Magnetic Fields	EN/IEC61000-4-8
	Voltage dips, short instrumentations & voltage variations	EN/IEC61000-4-11
	Immunity characteristics	EN55024

Specification external AC/DC power supply

Input	
Voltage range	100 - 240VAC
Current	1.5A max.
Stand by power	No load < 0.5W @ 230 VAC

Output	
Voltage range	24VDC
Power	65W max.
Current range	2.7A
Protection	Over current
	Over voltage
	Over power & short circuit

Environmental	
Temperature	Operating: 0°C to 40°C
	Non-operating -10°C to 75°C

General	
Efficiency	Meets EPS 2.0 Level V
Hold up time	10mS at nominal line
Load regulation	5% max.
Ripple & Noise	2% p-p max.
Withstand voltage	I/P-O/P: 3000 VAC (Class II)
I/P-O/P (V+)	4242 VDC, I/P-FG: 2121 VDC (Class I)

Mechanical Details	
Standard output connector	DC barrel jack
Standard output cable / length	UL1185 / 4ft.
Housing dimensions (LxWxH)	112 x 47 x 33mm
Input Weight	228g

Safety & EMC & Approvals		
Regulatory approvals	Europe	CE (EN 60950)
	International	CB (IEC/UL60950)
Electromagnetic emissions	Europe	EN55022, EN55024
	USA	FCC15 class B
	International	CISPR 22
Electromagnetic Immunity	Harmonic current emissions	EN61000-3-2
	Voltage fluctuation & flicker	EN61000-3-3
	ESD immunity	EN/IEC61000-4-2
	Electromagnetic field immunity	EN/IEC61000-4-3
	EFT / Burst	EN/IEC61000-4-4
	Surge	EN/IEC61000-4-5
	Conducted Immunity	EN/IEC61000-4-6
	Magnetic Fields	EN/IEC61000-4-8
Voltage dips, short instrumentations & voltage variations		EN/IEC61000-4-11
Approvals	USA	UL, CSA
	Europe	CE, VDE, GS, ÖVE, KEMA, SEV, CEBEC, SETI, UTE, DEMKO, NEMKO, SEMKO
	UK	BATB, BSI

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