

# Technical Data Sheet

## RRC-SMB-UBC-M RRC Medical SMBUS Universal Battery Charger



### 65 Watt Medical SMBUS Desktop Universal Battery Charger for Smart Batteries

#### Features:

- Single bay fast charger
- For the standard battery form factors RRC2020, 2024, 2040, 2040-2, 2054, 2054-2, 2057 or smart batteries with a similar footprint (e.g. 202x range, 204x range, 205x range, DR36, etc.)
- Optimized charging process for RRC batteries:
  - Longer cycle life
  - 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 consumer markets

### Specification RRC-SMB-UBC

Input	
Voltage range	19 - 26VDC
Current	3400mA max.
Power	65W

Output	
Voltage range	0 - 17.4VDC
Current range	0 - 4.8A
Voltage tolerance <sup>(1)</sup>	±1% max.
Current tolerance <sup>(1)</sup>	±10% max. @1A, ±3% max. @4A
Protection	Short circuit Over temperature shutdown Input-/output over current

Environmental	
Cooling	convection cooled
Temperature	Operating: 0°C to 40°C
	Non-operating -10°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 <sup>(2)</sup>	~95% at 100% load
Indicator	Multi-color LED (green, red, orange)
Battery types	Standard battery form factors RRC2020, 2024, 2040, 2040-2, 2054, 2054-2, 2057 or smart batteries with a similar footprint (e.g. 202x range, 204x range, 205x range, DR36, etc.)
Green procurement	RoHS 2011/65/EU WEEE 2012/19/EU Chinese RoHS

LED Indications	
One time Red/Orange/Green	Selftest: Charger is ready for use.
Red/Green blinking	Battery recognition and initialization.
Orange blinking	The battery is currently being calibrated.
Orange light	The inserted battery is of the correct type and is currently being charged.
Green light	The battery is charged and can be removed for use.
Red blinking	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 light	The battery is damaged or it is a conventional battery which cannot be recharged.

#### 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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Charger Mechanical Details	
Housing dimensions (LxWxH)	151 x 90 x 43mm
Weight	198g (excluding power supply)

Safety & EMC	In combination with specified external AC/DC power supply	
Regulatory approvals	Europe	CE
Electromagnetic Emissions	Europe	EN55011, EN55032, level B
	USA	FCC15 class 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 medical power supply

Input	
Voltage range	100 - 240VAC
Current	1.6A max.
Stand by power	No load < 0.21W @ 230 VAC

Output	
Voltage	19VDC $\pm$ 5%
Power	65W max.
Current range	0 - 3.43A
Protection	Over voltage, over current, Short circuit

Environmental	
Temperature	Operating: 0°C to 40°C
	Non-operating -20°C to 80°C

General	
Efficiency	DoE VI, ErP (Stage 2), GEMS, NRCAN, CEC, EPA
Ripple & Noise	190mV (p-p)

Power Supply Mechanical Details	
Standard output connector	DC barrel jack ( $\varnothing$ 5.5 x $\varnothing$ 2.5 x 9.5mm)
Housing dimensions (LxWxH)	119 x 60 x 36mm
Weight	310g

Safety & EMC		
Safety	ITE Medical	CB, PSE cULus, T-mark, EN/IEC60601-1
EMI	Europe USA / Canada	CE FCC15 class B

Germany/Headquarters	USA	Hong Kong	China
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