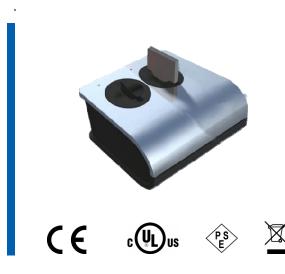
## **MBCxx<sup>4</sup> Series**

## **Preliminary Datasheet**





### **Features**

- 1 bay / 10 bay desktop charger (others on request)
- Constant Current and voltage regulation (CCCV)
- Charges Lithium- and Nickel-based batteries
- 10W maximum charging power
- 10V maximum charging voltage
- 2A maximum charging current
- Battery temperature monitoring
- Resistor based battery identification
- Battery identification/monitoring using single-wire battery fuel gauge and monitor ICs (HDQ or 1-wire)

## **Applications**

 Customized charging station for battery packs or mobile devices used in industry, medical and consumer areas

### **Specification**

Input		
	MBC01	MBC10
Voltage range		90 - 264VAC
Frequency range		47 - 63Hz
Input power	tbd	tbd
Standby power	tbd	tbd
Input fuse	tbd	tbd

Output (per bay)				
	MBCxxA	MBCxxB		
Voltage	0 - 4.2V	0 - 8.4V		
Current	<2A	<1A		
Power	10W max.			
Voltage tolerance	±1% max.			
Current tolerance	±5% max.			
Leakage current	< 1mA			
Ripple & Noise(1)	$< 120 \text{mV}_{\text{pk-pk}}$			
Protection	Short circuit			
Over temperature shutd				
	Reverse polarit	У		

Environmental	
Cooling	convection cooled
Temperature	Operating: -20°C to 40°C
	Non-operating -40°C to 85°C
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			
Input connector	MBC01 IEC60320 C8 (2-pin)	MBC10 IEC60320 C14 (3-pin)	
Efficiency <sup>(2)</sup>	typical 80% at 100% load		
Green procurement	RoHS2002/95/EC WEEE 2002/96/EC		
MTBF	> 250000h at 25°C and full load per MIL-HDBK 217F		
Indicator	Battery status LED (green/red) Power LED (green)		

#### Notes

Datasheet subject to change without notice.

- 1. Measured with a  $0.1\mu F$  ceramic and a  $47\mu F$  tantalum capacitor across the output terminals. The oscilloscope bandwidth is set at 20MHz a co-axial cable will be used to measure it. The test condition is maximum load.
- 2. Power losses of input and output cables are not considered here.
- 3. The rms method is used for leakage current measurements.
- xx=number of bays

# **MBCxx<sup>4</sup> Series**

## **Preliminary Datasheet**



Charge phases and Indicators					
Charge phase	charge phase Description		<b>Battery Status LED Indicator</b>		
		Green	Red		
Pre-charge	Until the battery voltage is lower than a specified threshold (deeply discharged) it is charged with a low current.	FLASHES			
Fast charge	When charging nickel based batteries, the charger delivers a constant current (CC) to the battery. When charging LiIon batteries the CC phase is followed by a constant voltage phase (CV). Once the battery voltage is close to the regulated charge voltage the charging current decreases.	FLASHES			
Top-off charge	Top-off charge completes the charging process. Selectable only for NiMH/NiCd batteries for achieving maximum capacity.	FLASHES			
Standby / Battery full		ON			
Failure			ON		

Charge phases, battery dependent threshold values and LED patterns can be modified to fit a variety of specifications. Please contact RRC.

Charge termin	ation met	thods
NiCd NiMH	-ΔV	At the end of the charging process the battery voltage decreases slightly. Fast charging is terminated if the voltage drop is higher than a specified threshold
	d <sup>2</sup> V/dt <sup>2</sup>	This fast charge termination method detects the inflexion point of the charge voltage curve.
	dT/dt	Charging process is terminated if the rate at which the battery temperature increases during
	,	constant-current charging is higher than a specified threshold. Temperature gradient threshold is adjustable
LiIon LiPolymer	$I_{Cutoff}$	If the charging current goes lower than a set threshold the battery charging process is terminated.
All chemistries	Timer	Terminate the charge process based on a safety timer
	TCO	Charge process stops if the temperature is out of a specified safety window.

Safety & EMC Insulation class Earth leakage current <sup>(3)</sup> Enclosure / Touch leakage current <sup>(3)</sup>		II NA <100μA		
Safety standards		ITE version	Household version	Medical version
		IEC60950-1	IEC60335-2-29	IEC60601-1
Electromagnetic Emissions	Europe USA International	EN55022, level B FCC15 class B CISPR 22, level B		
Electromagnetic Immunity	ESD immunity Radiated immunity EFT / Burst Surge Conducted Immunity Magnetic Fields	EN/IEC61000-4-3, 3V EN/IEC61000-4-4, 1k EN/IEC61000-4-5, 1k EN/IEC61000-4-6, 10	8kV, performance criteria B //m, performance criteria A kV, performance criteria B kV, performance criteria B kV, performance criteria A kVm, performance criteria A	
Regulatory approvals	Europe USA Japan International	CE cULus per UL60950 PSE CB		

Mechanical Details		
Dimensions (LxWxH)	tbd	
Weight	tbd	

Germany / Headquarters	France	USA	Hong Kong / China
RRC power solutions GmbH Technologiepark 1 D-66424 Homburg / Saar	RRC power solutions SAS 4, Rue de Charenton 2/3/4, Quai Blanqui F-94140 Alfortville	RRC power solutions Inc. 19713 Yorba Linda Blvd. #207 Yorba Linda, CA 92886-3532	RRC power solutions Ltd. 9/F Park Tower 15 Austin Road Kowloon, Hong Kong
Tel.: +49 0 6841 9809-0 Fax: +49 0 6841 9809-280 E-Mail: sales@rrc-ps.de	Tel.: +33 0 1 3005 6100 Fax: +33 0 1 3005 6101 E-Mail: france@rrc-ps.com	Tel.: +1 714 777 3604 Fax: +1 714 777 3658 E-Mail: usa@rrc-ps.com	Tel.: +852 0 2376 0106 Fax: +852 0 2376 0107 E-Mail: hkrrc@rrc-ps.cn