

PRODUCT DATA SHEET

RRC-PMM20

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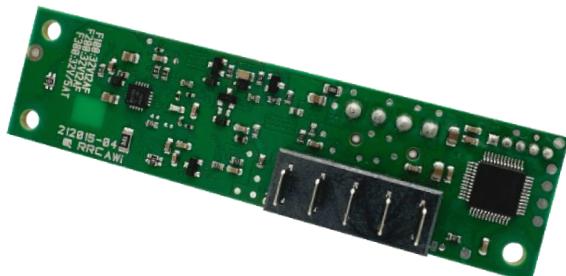
RRC-PMM20

Power Management Module for integration into all applications using RRC20xx batteries

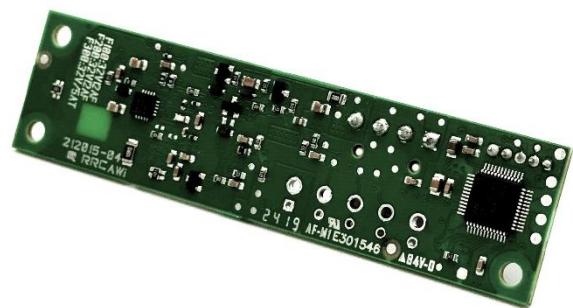
P/N:

110269 (with connector)

110354 (no battery connector)



with connector



Picture only for reference

no battery connector (-NC)



The PMM20 enables internal charging of batteries and facilitates a seamless switch between mains and battery power, ensuring uninterrupted operation and reliable power backup in a space-saving design. Multiple PMMs can be used in parallel inside one device to combine more batteries.

Features & Benefits

- **Easy to design in**
 - Easily integrable into slot design
 - Integrated 180° battery connector for different connection options
 - Maximum flexibility: Various mounting options
 - Small footprint & slim design to not waste space within the application
 - wide DC input voltage range to perfectly match the application's needs
- **Plug & Play available embedded charging solution for RRC standard battery packs**
 - Time to market: no development time, immediate product availability
 - No NRE: no additional development, approvals, or design costs
 - Low total cost of ownership
- **Power management functionality**
 - Seamless switch between mains and battery power
 - Up to 40W charging power in power supply mode
- **Fully compliant with Smart Battery Specification**
 - SMBus communication with battery and host
- **Worldwide certified for industrial and medical applications**
- **Configurable**
 - Programmable limits for input current, charging current and charging voltage
 - Status signal can directly drive a LED

Characteristics

Input (Power Supply Output)							
Input voltage range		7.50V – 24.00V, min. Battery charge voltage +1.00V					
Input power		240.00W max.					
Input current		10.00A max.					
Input fuse		12A					
Protection		Reverse polarity, short current					
Application Output							
Output voltage range		Equal to DC input voltage if external DC power supply is present. Equal to battery voltage if no external DC power supply is present.					
Total output power		168.00W max. in battery mode 160.00W max. in power supply mode					
Output current		10.00A max.					
Output fuse		12A					
Power Management							
Automatic power source selection with seamless transition between ext. DC power supply and battery							
Battery Input / Output							
Battery charge voltage		Up to 17.40V					
Battery charge current		Up to 3.60A					
Battery charge power		Up to 40.00W					
Battery discharge current		10.00A max.					
Protection		Battery short circuit, over-temperature, over-voltage, over-current & reverse polarity					
Standby current		300µA					
Environmental Condition							
Operating Temperature		-20° to 60°C					
Transport & Storage Temperature		-20° to 60°C					
Relative Humidity		5% - 95% non-condensing					
Altitude		5000m for operation and storage					
Recommended Voltage for External AC/DC Power Supplies							
Battery architecture		1SxP	2SxP	3SxP			
DC input voltage		7.50VDC	12.00VDC	15.00VDC			
Power supply wattage @ 4.00A max input current		≥30.00W	≥48.00W	≥64.00W			
Power supply wattage @ 8.00A max input current		≥60.00W	≥96.00W	≥128.00W			
		≥160.00W					
Regulatory Approvals							
International		Test report and certificate acc. IEC62368-1					
Europe		CE, UKCA (EMC)					
USA		FCC (EMC)					
Environmental		RoHS REACH WEEE					

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Mechanical Details	
Board dimensions (LxWxH)	~87mm x 22.40mm, without cables and connectors With three mounting holes
Weight	See below
Battery Connector	See below
Input/Output Connector	1x 90° / 4pin JST style header on PCBA
Communication Interface	90° / 5pin JST style header on PCBA with 2xSMBus lines, GND and 2xGPIO

Version Differences	RRC-PMM20	RRC-PMM20-NC
Product Number	110269	110354
Weight	~16g	~14g
Battery Connector	1x battery pack accessible via 180° mating connector for RRC20xx batteries	no battery connector
Regulatory Approvals	All above and additional ANSI/AAMI ES60601-1:2005 + A1:2012 + A2:2010	All above

To facilitate a fast design-in process for developers, RRC provides 3D data and detailed specifications of the power management module RRC-PMM20 and RRC smart batteries. For an application note related to the power management module with additional details, contact your RRC representative. For further information on the RRC smart batteries, please refer to the RRC website (www.rrc-ps.com).



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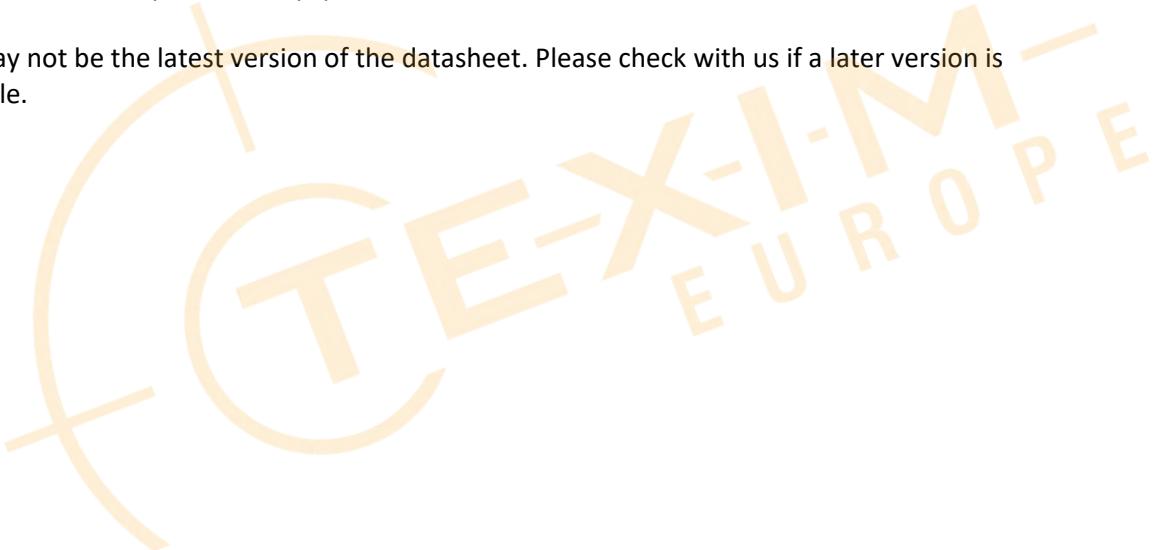
It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time.

All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

Please contact us if you have any questions about the contents of the datasheet.

This may not be the latest version of the datasheet. Please check with us if a later version is available.





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