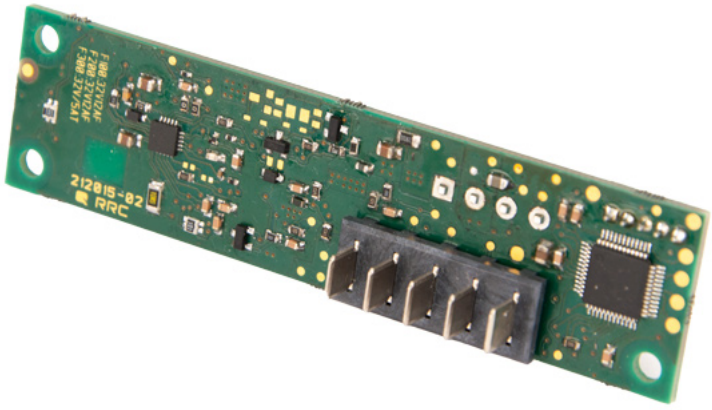
RRC-PMM20

Power Management Module for integration into all applications using RRC20xx batteries

P/N: 110269



Picture only for reference – PMM20 and RRC2054-2

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	200µA

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,	4SxP
DC input voltage	6.00VDC,	12.00VDC,	15.00VDC,	19.00VDC
Power supply wattage @ 4.00A max input current	≥30.00W,	≥48.00W,	≥64.00W,	≥80.00W
Power supply wattage @ 8.00A max input current	≥60.00W,	≥96.00W,	≥128.00W,	≥160.00W

Regulatory Approvals	
International	IEC 60601-1(ed.3), IEC 60601-1(ed.3) am1 Test report acc. IEC62368-1
Europe	CE, UKCA (EMC)
USA	FCC (EMC)
Environmental	RoHS REACH WEEE

Mechanical Details	
Board dimensions (LxWxH)	~87mm x 22.40mm, without cables and connectors With three mounting holes
Weight	~16g
Battery Connector	1x battery pack accessible via 180° mating connector for RRC20xx batteries
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

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

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