Technical Data Sheet

Power Management Module RRC-PMM240





Power Management Module for Mobile Applications Features:

- 240 Watt max. output power to application
- 82 Watt max. output power to battery
- Automatic power source selection
- Wide DC input voltage range
- 3D data available of power management module and batteries for easy integration into user application
- Fits to standard smart batteries from RRC (e.g. RRC2020, RRC2024, RRC2040, RRC2040-2, RRC2054, RRC2057, ...)

Applications:

Power management and smart battery charging capability for medical and industrial applications

Specification

Power supply Input Input voltage range Min. Battery charge voltage+1V Max. 24VDC Total input power 192W max. Input current 8A max. Input fuse 12A Protection Reverse polarity, short current

Power Management

Automatic power source selection with seamless transition between ext. DC power supply and battery

Application Output	
Output voltage range	Equal to DC input voltage if ext. DC power supply is present. Equal to battery voltage if no ext. DC power supply is present.
Total output power	240W max.
Output current	10A max.
Output fuse	12A

Battery Input / Output	
Battery charge voltage	Up to 19.2V (± 0.5%)
Battery charge current	Up to 6.2A (± 3%)
Battery charge power	Up to 82W
Battery discharge current	10A max.
Protection	Battery short circuit, over temperature, over voltage, over current & reverse polarity
Standby current	Typical 1mA

Environmental Condition		
	Operating	
	Temperature	-20° to +60°C
	Transport & Storage	
	Temperature	-20° to +60°C
	Relative Humidity	5% - 95% non-condensing
	Ambient pressure	500-1070hPa

Frotection	temperature, over voltage, over current & reverse polarity
Standby current	Typical 1mA
User Interface	
UI via GPIO / available info	Charging: yes/no Ext. DC power supply: yes/no Battery/hardware error
SMBus commands to set	Charge current limit, input current limit
Battery information available	via standard SMBus

Recommended Voltage for External AC/DC Power Supplies			
Battery architecture	DC input voltage	Power supply wattage	Power supply wattage
		@ 4A max input current	@ 8A max input current
1SxP	6VDC	≥30W	≥60W
2SxP	12VDC	≥48W	≥96W
3SxP	15VDC	≥64W	≥128W
4SxP	19VDC	≥80W	≥160W

Regulatory Approvals

USA: ANSI/AAMI ES60601-1:2005/(R)2012 International: IEC 60601-1(ed.3), IEC 60601-1(ed.3);am1 Canada: CAN/CSA-C22.2 NO. 60601-1:14

Mechanical Details

Board dimensions (LxWxH) 60mm x 50mm x 11mm, without cables and connectors Weight Typical 22g

Connectors: DC input & DC output (2 pin) / User interface (6 pin) / Battery connector (5 pin smart battery connector)

To facilitate a fast design-in process for developers, RRC is providing 3D data of the power management module RRC-PMM240 and the battery housings of RRC smart battery. 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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