Smart Battery Module MARS

Mobile **A**pplication platform for **R**echargeable **S**ystems

ETX® ETX® 3.0 Long Term Support COM Express

- Smart battery reference design Kit
- Input voltage range 5VDC to 28VDC
- Support for 2 batteries
- Support for S3 power management mode (Suspend to RAM)
- Modular design for fast implementation in different customized solutions
- Free of charge Layout and Schematic documents

Product Overview

The smart Battery Module "MARS" is your Mobile Application platform for Rechargeable Systems. The main aim of the evaluation module is to give users the possibility to design their optimal applications with a mobile power supply with up to 60W and with 1 or 2 Smart Batteries. Additionally the Smart Battery Manager (SBM) "MARS" should prevent a crash of the applications, in case of electrical power outage. This assures an uninterruptible Power Supply for a certain period. Because different battery chemistries could be used, the SBM "MARS" uses smart batteries technology. So the user can also monitor the data about the charge state, battery capacity and further information. This system uses the System Management Bus (SMBus) to potentiate the user to control the important functions of smart battery standard.
For providing the input voltage for the SBM "MARS" a ATX power supply can be used as well as a variable input voltage in the range of 5V to 28VDC.
The layout of the SBM "MARS" is created as a modular design. This gives the chance to design a new SBM on a backplane in very short time only with the components that are really necessary.
The output of „MARS" can be used differently. It is acting in the same way as a ATX power supply behaves. I. e. regarding to the PS_ON signal only 5V Standby or all other voltages are available. Just as well it is possible to supply the baseboard and COM with the smart battery voltage too. So every suspend state can be realised to save power.
You profit of the higher effectiveness by concurrent charging of the Smart Batteries, the automatic choice of best voltage source and the simultaneous discharge of both batteries increases battery operating time.

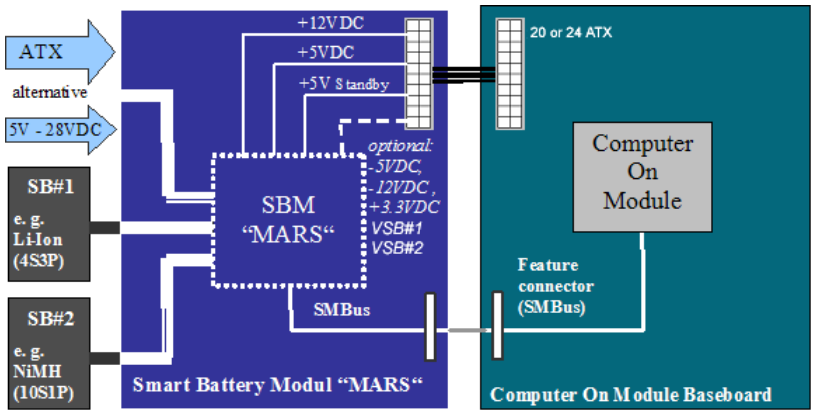
Technical Information

Form Factor
185 mm x 160 mm (7.28" x 6.3")
Height
16,5 mm
Input voltage range
5VDC to 28VDC
Applicable Smart Batteries*
NiMH and NiCd up to 10S1P, e. g. 9S1P (10.8V), 10S1P (12V) LiIon and LiPo up to 4S3P: e. g. 2S2P (7.2V), 3S3P (10.8V), 4S3P (14.4V)

Supported Products
Basic functions are supported by all Kontron COMs & nearly all SBCs. For key functions please have a look in the manual under Appendix D.
Output voltages*
12VDC (max. 60W), 5V Standby, 5VDC (max. 42,5W), additional lines for: 3,3V, -5V, -12V
Elements of the Eval-Kit
SBS "MARS" plane, wire for ATX power connector (2.0 downward compatible), wire for "feature connector" (SM-Bus) Y-wire power connector

(*) see manual for details

Functional application block diagram



Ordering Information

Article	Part.-No.	Description
Smart Battery Kit	18029-0000-00-0	Smart Battery Module Kit MARS

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