RAD-wBMS

Wireless Battery Management System (wBMS) Monitoring Solution

Intrepid has partnered with Analog Devices to create a state of the art battery cell measurement and network testing hardware using the wBMS (Wireless Battery Management System®) technology. The RAD-wBMS is an adaptor designed to interface between ADI’s electric vehicle wBMS and legacy test platforms in a variety of use cases. It contains ADI wBMS radios and isoSPI interfaces with which to control and configure the wireless network components along with DW CAN-FD, 100Base-T and USB interfaces with which to connect to legacy test platforms.

The RAD-wBMS comes pre installed with ADI’s wireless interface API (WIL) allowing easy control of the ADI wBMS network. RAD-wBMS combines Analog Devices’ wBMS technology to deliver a complete solution for monitoring critical parameters of battery systems in real time using Vehicle Spy 3 software. Parameters monitored include cell voltage, cell current, ambient temperature, cell/unit voltage, impedance, and temperature. The RAD-wBMS is compatible with many battery chemistries such as VLA, VRLA, and Li-Ion battery types.

APPLICATIONS:
• Engineering development of wireless network components
• Engineering development of wireless battery modules and packs
• Manufacture and assembly of wireless battery modules and packs
• Inventory management of wireless battery modules and packs
• Vehicle assembly for wireless battery pack configuration
• Vehicle servicing for wireless battery module and pack configuration

FEATURES
• Wirelessly monitor up to 24 wBMS nodes (12 cells/node) in dual manager configuration
• 2x isoSPI interfaces
• 2x DW CAN-FD channels
• 2x software enabled CAN terminations
• 1x 100 Megabit Ethernet (10/100BASE-TX) for use with DoIP, XCPoE and more
• 10x Programmable tri-color LEDs
• Membrane LEDs to show link, error, and activity status

GENERAL SPECIFICATIONS
• Interface to PC via Ethernet or USB 2.0
• Power supply: 6-40V operation via barrel jack; use included power supply or vehicle power
• Ten scriptable, multi-color LEDs indicate link status and modes of operation
• All components rated -40°C to +85°C
• One-year limited warranty
• Field-upgradeable binary flash firmware
• Flash firmware functionality
• ADI wireless interface API (WIL)
• Royalty free configuration only version of Intrepid’s Vehicle Spy3 software
• Standalone mode, including scripting, receive messages, transmit messages, expressions, I/O and transport layers
• Dimensions: 5.41” × 3.43” × 1.43” (13.7 × 8.72 × 3.62 cm)
• Weight: 0.65 lb (295 g)

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TIMING SPECIFICATIONS
• 64-bit timestamping with 25ns precision across all networks
• Simultaneous operation on all CAN FD networks

NETWORK SPECIFICATIONS
• 2x CAN / CAN FD channels: two dedicated ISO11898 Dual Wire CAN physical layers (ADM3056EBRIZ)
• Software-switchable between ISO CAN FD and non-ISO (Bosch) CAN FD versions
• Up to 1 Mb/s software-selectable baud rate for arbitration phase
• Up to 8 Mb/s software-selectable baud rate for data phase
• Listen-only mode support
• CAN FD implemented using the Bosch MCAN CAN controller IP

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*Specifications subject to change. Please contact Intrepid for the latest information.*