



Integrated Battery Interface System

The RDVS Integrated Battery Interface System (IBIS) provides system integration and a customer interface to cell-level battery management components.

The design is scalable as part of a larger, multiple-string battery system and acts as a master controller for the RDVS 'Battery Management Boards'. As well as overseeing the battery charge and discharge strategies, the IBIS provides vehicle-level HV precharge, contactor control, system isolation monitoring and charge/discharge current measurements. The IBIS also acts as a CAN gateway between battery and vehicle CAN and provides UDS functionality as well as a number of LV inputs and outputs.

Typical applications include: Full EV, Hybrid EV, Range Extended EV, Stationary power systems and Maritime systems.



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ISO 9001:2008
FS 563617



ISO 14001:2004
EMS 563618

Features

- › Fully integrates with up to 15 RDVS 'Battery Management Board' modules in one or two battery strings to create a complete battery electronics solution
- › Modular design allows support for up to 100 IBIS units in a single large battery system
- › Contactor control for switching both positive and negative HV lines
- › Also provides contactor control for battery heating
- › 150A fusing in negative HV lines
- › Precharge of vehicle HV system
- › Current sensing with resolution down to 10mA for small currents, capable of measuring 150A maximum, per string
- › Monitors isolation between HV system and chassis in compliance with REG100 legislation, broadcasts value over CAN
- › Provides and monitors current sourced HVIL loop for vehicle HV system
- › Dual hardware safety shutdowns from vehicle HVIL and 'Battery Management Board' safety lines
- › Low voltage systems are galvanically isolated from HV connections
- › High integrity software – can form part of an ISO26262 compliant system
- › Provides State of Charge, Depth of Discharge and State of Health data over CAN
- › Data logging with real-time-clock
- › Capable of interfacing to vehicle immobilisation systems
- › Compliant with Unified Diagnostic Services (UDS) requirements, providing fault code generation and remote re-flash capabilities
- › Can mount directly to battery tray and provide HV and LV interface with vehicle

Physical Attributes

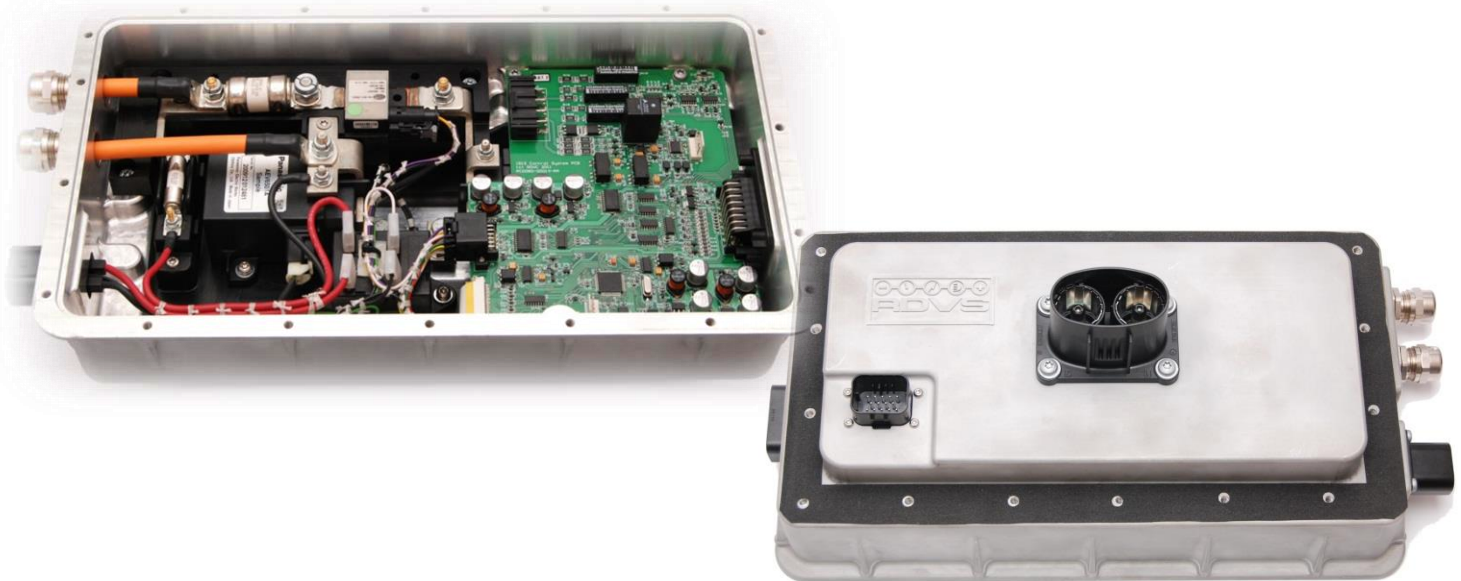
- › Dimensions: 300mm x 200mm x 80mm
- › LV vehicle connections: 23- and 14-way Ampseal
- › HV vehicle connections: Hardwired, or Tyco HV800 (or customer specified)
- › Battery string connections: 8-way JST CPT
- › Mounting: 4 x M6 or sealing to battery tray
- › Earth bonds to vehicle chassis

Environmental

- › Operating voltage range: 9-16V DC
- › HV voltage range: 50-720V DC
- › Typical power consumption: ~2A at 12V
- › Temperature: -40°C to +85°C operating
- › Humidity: IEC 60068-2-38 Z/AD
- › Vibration/shock: IEC 60068-2-64, IEC 60068-2-6, IEC 60068-2-27
- › EMC: ISO7637, ISO11452, 2004/104/EC
- › ESD: ISO10605
- › RoHS compliant
- › Sealed to IP67, can meet IP6K9K in appropriate installation

All parameters are subject to individual installation conditions and may require additional validation – this may be carried out to customer specification if required

Design integration and engineering support available, bespoke hardware and software versions of this product available on request



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