



VALMET AUTOMOTIVE

MODULAR POWER PACK, HIGH VOLTAGE

UNIQUE COMBINATION OF
PERFORMANCE, DURABILITY AND
LIFETIME IN ONE COMPACT PACKAGE



FEATURES

DIRECT CELL-TO-PACK CONCEPT

- Optimized structure
- High packaging density

EXCEPTIONAL COOLING PERFORMANCE

- Advanced liquid cooling
- Maximized cell cycle life
- High continuous current capability

HIGH POWER DENSITY

- High peak power capability
- Fast charging compatibility

EFFICIENT USE OF AVAILABLE SPACE

- High level of integration
- System can be distributed on machine or vehicle level

DESIGNED FOR SAFETY CRITICAL APPLICATIONS

- Safety certified Battery Management System (BMS)
- Robust passive safety structure

DESIGNED FOR HARSH ENVIRONMENT

- Die-casted aluminum housing provides protection against external forces
- High Ingres Protection grade (IP6k9k)

THERMAL PROPAGATION PREVENTION

- Cells protected by aluminum structure
- Stable and safe LTO cell chemistry

EASY INTEGRATION

- System integration can be done without high voltage work requirement
- Scalable system up to 400 kWh
- CANOpen or J1939 communication

DEVELOPED AND DESIGNED
TO MEET HIGH RELIABILITY
REQUIREMENTS WITH LONG
HISTORY OF AUTOMOTIVE
EXPERTISE.

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STANDARDS COMPLIANCE

ECE R100 Battery safety

ECE R10 EMC

UN 38.3 Transport Safety

ISO 16750 Environmental conditions

Functional Safety

- IEC 61508 SIL 2
- ISO 13849 PL C
- IEC 62061 SIL 2

VA EV SYSTEMS INFO AND CONTACT INFO

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ELECTRICAL DATA

n_x Power Pack HV*

CAPACITY	n _x 2.2 kWh
ENERGY	n _x 46 Ah (1C @ 25 °C)
CELL CHEM	Lithium Titanite Oxide (LTO)
NOMINAL VOLTAGE	From 48 VDC to 725 VDC
PEAK DISCHARGING POWER (10 s) SOC >90 %, @ 25 °C	n _x 20 kW
PEAK CHARGING POWER (10 s)	n _x 20 kW
CONTINUOUS POWER	n _x 10 kW
POWER CONSUMPTION IN STANDBY	1 W
CYCLE LIFE	>20,000 to 80 % initial capacity @ 25 °C, 3C/3C, SOC 10 % - 90%

Performance of high capacity High Voltage system comprising multiple packs (n equals number of packs) in series can be up to n_x respective parameters

*Up to 15 packs per one PDU

MECHANICAL DATA

Power Pack HV

PDU

	Power Pack HV	PDU
DIMENSIONS (L x W x H)	483 mm x 380 mm x 160 mm	275 mm x 380 mm x 140 mm
TOTAL WEIGHT	41 kg*	9.5 kg
OPERATING TEMPERATURE RANGE	-30 °C ... +55 °C	
RECOMMENDED OPERATING TEMPERATURE	+5 °C ... +35 °C	
PROTECTION CLASS	IP6k9k	
COOLANT PRESSURE (MAX.)	3.5 bar	NA

* Dry weight

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