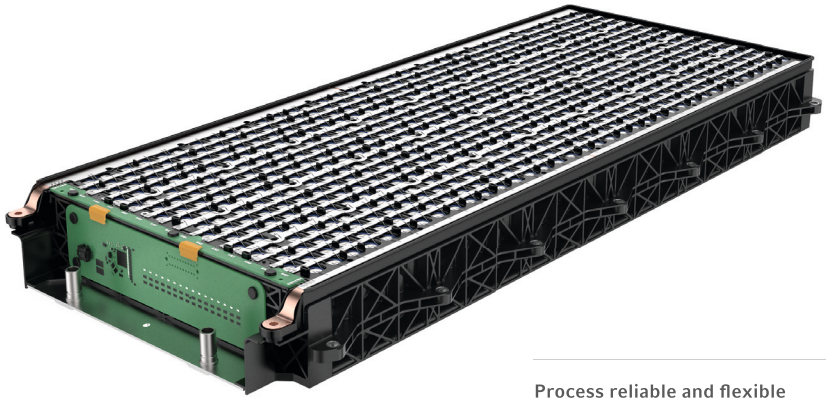
FACT SHEET

48 V Battery module



Process reliable and flexible
Battery modules from ElringKlinger based on cylindrical cells

The cylindrical cell lithium-ion battery module from ElringKlinger represents a 48 V standard for traction batteries.

This battery module can be connected in series up to an integrated system voltage of 500 V. In addition, the module can be adjusted for the customer needs (module variations). The certified module meets the most demanding safety requirements that apply in the automotive industry.

Parameters

+ 48 V standard module comprised of 576 cylindrical lithium-ion cells (21700)
+ Cell voltage tapping via bonded connections made in fully automated production
+ Connection in series possible up to an integrated system voltage of 500 V
+ Depiction of various module voltage levels (48 V & 60 V)
+ High module part variation (optional without integrated cooling, cell contacting system 48 or 60 V, optional cover)

Technology

+ Highly automated module assembly of the 21700-cell format
+ Assembly of components with production ready technology
+ Failsafe isoSPI communication
+ Integrated voltage and temperature measurement via isoSPI
+ Integrated passive cell balancing via isoSPI
+ Wire bonding (single cell fuse)
+ Hot spot redundance cell temperature measurement
+ Module mounting (stackable, underbody mounting)
+ Plastic module frame (inhouse competence)
+ Integrated cooling

Benefits

+ Maximum reliability due to function integration (voltage and temperature measurement)
+ Flexible parameterization of the slave for adaption to the master BMS
+ Failsafe simple two core ring cable harness the slave controller module
+ High energy density
+ Single cell propagation passed

Specifications

12s48p BATTERY MODULE

CELL TECHNOLOGY	Lithium ion (NMC)
CELL TYPE	21700
NOMINAL VOLTAGE (V)	44.3
NOMINAL CAPACITY (AH)	237
NOMINAL ENERGY (KWH)	10.5
NOMINAL SPECIFIC ENERGY (WH/L)	377.7
NOMINAL SPECIFIC ENERGY (WH/KG)	201.5
MAX. CONTINUOUS CHARGE CURRENT (A)	166 / 0.7 C
MAX. CONTINUOUS DISCHARGE CURRENT (A)	263 / 1.11 C
MAX. PULSE DISCHARGE CURRENT (10 S) (A)	806 / 4.6 C
DIMENSIONS (MM)	886 x 395 x 79.4 (w/o.cover) 886 x 395 x 80.4 (w/ cover)
WEIGHT (KG)	< 52
SAFETY FEATURES	Bond wire fuse, temperature measurement
LIFE TIME (UNTIL 80 % CAPACITY)	> 1,000 cycles / depending on operating strategy & DoD
THERMAL MANAGEMENT	G48 coolant mixed in a 50/50 ratio to water (w/ cooling)
THERMAL INTERFACE	VDA Compact QC Ø14
COMMUNICATION INTERFACE	BMS required - isoSPI interface
ELECTRICAL INTERFACE	M6 (HV+/-)
MECHANICAL INTERFACE	14 x M6
ENVIRONMENTAL TEMPERATURE (°C)	Charge: 0 to 45 Discharge: -20 to +55 Storage, transport: -20 to +55
MAX. SYSTEM VOLTAGE (V)	≤500
CONFORMITY	UN 38.3

ELRINGKLINGER – YOUR PARTNER FOR E-MOBILITY SOLUTIONS WITH BATTERY TECHNOLOGY

Cell Expertise – Module and System Design – Installation Space Optimization – Simulation and Testing – Certification – Prototyping – Process Engineering – Industrialization – Integrated Solutions and Components – Recycling

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