

# 48 V Battery module



## GENERAL FUNCTION

The prismatic lithium-ion battery module from ElringKlinger represents a 48 V standard for traction batteries. This flexible battery module can be connected in series up to an integrated system voltage of 800 V. The certified module meets the most demanding safety requirements that apply in the automotive industry so it can also be used in off-highway applications such as industrial trucks, leisure applications or stationary storage units.



## TECHNOLOGY

- Failsafe isoSPI communication
- Integrated voltage and temperature measurement
- Highly automated module assembly of the PHEV2 cell format
- Assembly of components with production-ready technology
- Depiction of various cell formats on flexible prototype system



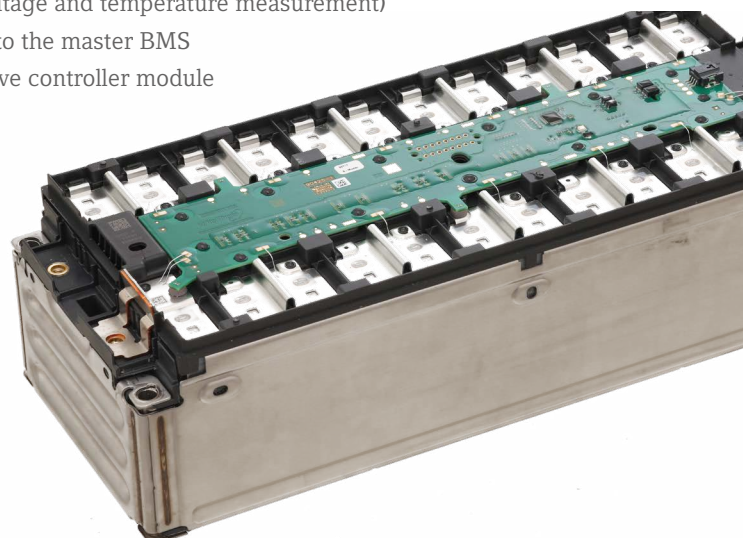
## PARAMETERS

- 48 V standard module comprised of 12 prismatic lithium-ion cells
- Connection in series possible up to an integrated system voltage of 800 V
- Customized stacking of 12 to 26 cells can be realized
- Different connections can be implemented: e.g. 12s1p, 13s1p, 6s2p, 12s2p, 13s2p
- Cell voltage tapping via bonded connections made in fully automated production



## BENEFITS

- Maximum reliability due to functional integration (voltage and temperature measurement)
- Flexible parameterization of the slave for adaptation to the master BMS
- Failsafe simple two-core ring cable harness to the slave controller module
- Long service life for the module due to sturdy design using an ideal cell clamping concept





## SPECIFICATIONS

### 12s1p BATTERY MODULE

CELL TECHNOLOGY	Lithium ion (NMC)
CELL TYPE	Prismatic (PHEV2)
NOMINAL VOLTAGE (V)	43.8
NOMINAL CAPACITY (Ah)	51
NOMINAL ENERGY (kWh)	2.2
NOMINAL SPECIFIC ENERGY (Wh/l)	303
NOMINAL SPECIFIC ENERGY (Wh/kg)	163
MAX. CONTINUOUS CHARGE CURRENT (A)	76.5*
MAX. CONTINUOUS DISCHARGE CURRENT (A)	102*
MAX. PULSE DISCHARGE CURRENT (10 s) (A)	240*
DIMENSIONS (mm)	388 x 156 x 120
WEIGHT (kg)	13.5
SAFETY FEATURES	Integrated cell balancing via IsoSPI; interface for optional BMS
LIFE TIME (UNTIL 80 % CAPACITY)	1,500 @ 1 C @ 25°C, up to 4,000 depending on operating strategy & DoD
THERMAL MANAGEMENT	Solutions for liquid and air cooling available
ENVIRONMENTAL TEMPERATURE (°C)	Charge: -20/45 Discharge: -30/60 Storage, transport: -20/35
MAX. SYSTEM VOLTAGE (V)	800
CONFORMITY	UN 38.3, DIN EN 60664-1

\* Depending on the cooling system



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Cell Expertise – Module and System Design – Installation Space Optimization –  
Simulation and Testing – Certification – Prototyping – Process Engineering – Industrialization –  
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## YOUR CONTACT

ElringKlinger AG

Phone +49 7123 724-0

E-mail [info@elringklinger.com](mailto:info@elringklinger.com)

