

Lithium Primary Batteries

Alkaline Batteries

- consumer battery
- cell voltage 1,5V
- low capacity

Li-Iron Disulfide Batteries

- consumer industrial mix
- cell voltage 1,2V
- higher capacity compared to alkaline
- easy replacement for alkaline
- longer life time in comparison with alkaline



Li-SoCl2 Batteries - Lithium Thionyl Chloride

- high operating voltage, stable during most of the application lifetime
- wide temperature range from -55°C (-60°C) to +85°C
- superior shelf life and reliability: over 15 years shelf life at room temperature with a self-discharge rate lower than 1% per year
- energy type is bobbin structured and best suited for low discharge current. It may require activation before medium currents can be delivered
- high power type is spiral structured and best suited for high continuous and pulse current discharges. It may require activation before medium currents can be delivered
- high temperature type up to +150°C

Li-MnO2 Batteries - Lithium Manganese Dioxide

- high operating voltage, stable during most of the application lifetime
- wide Temperature Range from -40°C to +85°C
- low self-discharge rate is less than 1% per year at room temperature
- energy type is bobbin structured and best suited for low discharge current
- high Power type is spiral structured and best suited for high current discharge for both continuous & pulse currents
- button Types available

Application Examples

Metering (Water, electric, Gas)
Toll collect
Smoke detector
Alarm systems
Back Up Power
Electronic locks (door systems)
Cameras with flash light

Watches
Electronic keys for automobiles
Sensors
Taxi meter
Life jackets
RFID Tags
E-Call systems

Our Capabilities

Battery packs
Special wires and connectors
Safety electronic for primary cells

Lithium Secondary Batteries "Akkus"

Lead Acid

- 1,2V cell voltage
- big size and high weight
- no transport restrictions
- short life time in comparison with other technologies
- 200-500 cycles with 50% DOD

Lithium Ion

- 3,2V to 4,2V cell voltage
- different chemistries
- safety electronic and BMS needed
- no memory effect
- transport restrictions
- limited storage time (deep discharge)

Nickel Cadmium

- 1,2V cell voltage
- easy to charge
- restricted in Europe
- good deep temperature performance

Cell mechanics

pouch cells
cylindrical cells
prismatic cells
button cells
radial cells
screw types

Battery Pack Designs

design by Ineltro possible
PCM (protection)
BMS (protection, balancing, communication,...)
UN38.3 certification for transport
IEC62133 certification
UL certification



Nickel Metal hydride

- 1,2V cell voltage
- replacement for NiCd
- 40% more energy density than NiCd
- lifetime of 500-1000 cycles

Supercapacitors

- 2,5V to 3,0V cell voltage
- Lifetime >500.000 cycles
- excellent deep temperature performance (-40°)
- fast charging – just in seconds
- high current capability

Lithium Supercapacitors - Hybrid

- 3,7V cell voltage
- hybrid type
- low leakage current

Energy Storage Systems

Intelligent energy storage systems are able to store energy from solar panels or from the grid. Two different solutions are possible

- ESS storage battery -> an inverter is needed
- ESS storage system -> everything is included. The device can be connected directly to the Solar Panel, to the grid or both.

Different sizes are available

- Portable solutions (128Wh, 256Wh and 512Wh)
- Mobile solutions (768Wh and 1280Wh)
- Fixed solutions (2KWh, 4KWh, 5KWh, 8KWh, 16KWh...)



Solar Cells

Different technologies, formats and sizes are available

- standard mono- and polycrystalline solar cells from 5W to 310W
- customized mini solar cells from 0,1W to 5W
- silicon thin film solar panels for indoor and outdoor applications
- super thin film flexible solar cells
- customized sizes and formats

Certifications

UN38.3 Certification

This certification is mandatory for transportation

Each battery cell and battery pack has to be tested and certified by an official institute. Without this certificate shipment is prohibited.

For this certificate is needed:

- 20 pcs. samples
- lead time is 8-10 weeks excluding sample production

The certificate consists of detailed test results including pictures of the battery.

IEC62133 Battery Certification

Tests are similar than UN38.3 but include additional tests that are required to obtain IEC62133 certification.

For this certificate is needed:

- 20 pcs. samples
- lead time is around 12 weeks excluding sample production

The certificate consists of detailed test results including pictures of the battery. The IEC63133 certification can be done in combination with UN38.3 certification.

Transport

- every transport requires the UN38.3 certification and MSDS sheet
- regulations for air and sea shipments are different
- UN number and classification is needed for shipment. For example UN3480 Section PI966 (please ask for details)

Storage

- Limited storage time due to self-discharge
- Storage conditions are defined in the datasheets, normally room temperature (please ask for details)
- Ineltro can provide specific logistic solutions

Recycling

- recycling of Industrial batteries is mandatory
- industrial batteries must be reported to government, if country of production is from outside the EU
- Ineltro can offer an individual solution for all these topics

**Do you have any questions?
please do not hesitate to contact us.**



Christian Kinauer

Product Manager / FAE

t +43 1 61062 414
m +43 676 641 40 08
f +43 1 61062 151
christian.kinauer@ineltro.at

Lamezanstr.10, A-1230 Wien, Austria

www.ineltro.at

