

COMPARISON BETWEEN LEAD AND LITHIUM-ION (LI-ION) BATTERIES

LEAD BATTERIES

- ⊕ Mature technology
- ⊕ Inexpensive and economical
- ⊕ Wide temperature range -20° C to + 55° C
- ⊕ Constantly available on the market
- ⊕ Transport and storage without special conditions
- ⊕ No fire hazard
- ⊕ 100 % recycling
- ⊕ Raw materials retain value
- ⊕ Replacement after 10 years with new battery technology

LITHIUM-ION BATTERIES

- ⊕ High energy density
- ⊕ Low weight
- ⊕ Fast charging and discharging
- ⊕ 20-year expected lifetime

STAY FLEXIBLE WITH POWERBALL STORAGE SYSTEMS

- ⊙ Scalable up to 1000 kWh
- ⊙ Can be expanded at any time
- ⊙ Interfaces open & programmable
- ⊙ Energy management programmable
- ⊙ Heat pump integration Flexible in capacity and performance
- ⊙ Emergency power function
- ⊙ Stand-alone application
- ⊙ Fast & simple installation
- ⊙ Charges all battery types (48V)
- ⊙ AC + DC capable (lead)
- ⊙ For locations from -20° C to +55° C (lead)
- ⊙ No fire hazard (lead)
- ⊙ Batteries 100 % recyclable (lead)

powerball®

energy storage systems

 stay flexible

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Expert specialist partner

powerball®

energy storage systems

 *stay flexible*



FOR PRIVATE + COMMERCIAL USE

Lithium-ion or lead batteries
Basic or Professional

*Powerball®-power storage systems -
the intelligent way to use electricity*

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Made in Switzerland

BASIC OR PROFESSIONAL

THE RIGHT MODEL FOR EVERY APPLICATION

All Powerball storage systems are available in 2 versions:

BASIC: The Basic series is equipped with all Powerball stay-flexible functions. However, it does without the extension option for emergency power and the stand-alone function. Just the right model for operators who have no requirement for these features.

PROFESSIONAL: The Professional models offer full functionality with all Powerball options, including preparation for an emergency power and stand-alone function. Exactly the right model for operators who want to protect themselves against power failures, or those who want to operate a reliable stand-alone network which is independent of the public power grid..

BASIC & PROFESSIONAL VERSIONS ARE AVAILABLE AS LITHIUM-ION OR LEAD MODELS

	Lithium-ion	Lead
Location	heated cellar/heated room	unheated cellar/garage/stable/workshop
Temperature range	+4° C to +30° C	-20° C to +55° C
Recycling	no established procedure	100 % recycling
Capacity extendable at any time	6 to 1000 kWh	6 to 1000 kWh

COMPARISON

FUNCTIONS: BASIC & PROFESSIONAL

Function	Basic	Professional
Solar power	X	X
Wind power	X	X
CHP plant	X	X
Emergency power function	-	(X)
Stand-alone operation	-	(X)
Heating element	X	X
Switching contacts	(X)	X
Heat pump control	(X)	X
Charging station	X*	X*
Generator operation	-	X
Extension kit	X	X
Subsequent expansion of capacity	X	X
Subsequent expansion of output	X	X
DC coupling - photovoltaics	(X)	(X)
TCPIP interface	(X)	(X)
Modbus	X	X
Balancing energy market	X	X
Easy install	X	X

Symbole: X standard, (X) option, X* in preparation, - not possible

POWERBALL POWER STORAGE – LITHIUM-ION OR LEAD

POWERBALL LITHIUM-ION STORAGE SYSTEMS

LITHIUM MODELS feature highly efficient lithium-ion batteries, and are durable and powerful. For maximum performance and high energy requirements, at site temperatures of +4° C to +30° C



Gross capacity	Discharging capacity max.	Charging capacity max.	Number of phases	Type
6,7	2	1,44	1	LIRO-2000-5
	2,25	1,7	3	LIRO-2250-5
	3,5	2,4	1	LIRO-3500-5
10,1	2	1,44	1	LIRO-2000-8
	2,25	1,7	3	LIRO-2250-8
	3,5	2,4	1	LIRO-3500-8
20,2	6	4,32	3	LIRO-6000-16
	10,5	7,2	3	LIRO-10500-16
30,2	6	4,32	3	LIRO-6000-24
	10,5	7,2	3	LIRO-10500-24
etc. up to 1000kWh				

Guarantee: 10-year time value replacement guarantee

Battery type: lithium-ion (maintenance-free)

Connection type: AC

Usable capacity: 80 %

POWERBALL STORAGE SYSTEMS LEAD

LEAD MODELS: wide temperature range, value retention, fully recyclable, economical. Maximum flexibility in site selection, for ambient temperatures from -20° C to +55° C



Capacity	Discharging capacity max.	Charging capacity max.	Number of phases	Type
10,0	2	1,44	1	PBRO1-2000-6
	2,25	1,7	3	PBRO3-2250-6
	3,5	2,4	1	PBRO1-3500-6
13,3	2	1,44	1	PBRO1-2000-8
	2,25	1,7	3	PBRO3-2250-8
	3,5	2,4	1	PBRO1-3500-8
30,0	6	4,32	3	PBRO3-6000-18
	10,5	7,2	3	PBRO3-10500-18
40,0	6	4,32	3	PBRO3-6000-24
	10,5	7,2	3	PBRO3-10500-24
etc. up to 1000kWh				

Guarantee: 10-year time value replacement guarantee

Battery type: lead (maintenance-free)

Connection type: AC or DC

Usable capacity: 60 %