

Technical Specification for Stationary VLA - Block - Batteries

1. Application

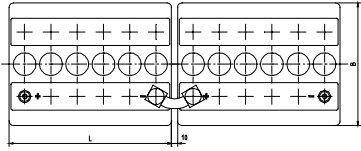
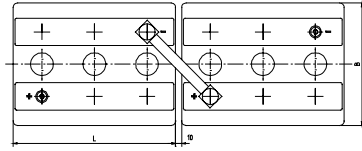
BAE UPS - batteries are robust and for high discharge - performances optimised lead-acid batteries. They are particularly suitable for bridging times of a few minutes to one hour.

The main application for BAE UPS are Uninterruptable Power Supplies (UPS) in the size of 50 to 250kVA. Due to the low internal resistance the battery is perfectly suited to start diesel engines for the auxiliary power supply.



2. Types, capacities, dimensions, mass

Type	P _{60min}	P _{30min}	P _{15min}	P_{10min}	P _{5min}	Ri 1)	I _k 2)	length L	width W	height max.	mass 3)	mass 4)
U _e V / cell	W/Z	W/Z	W/Z	W/Z	W/Z	mΩ	kA	mm	mm	mm	kg	kg
12V 1 UPS 100*	42,6	63,2	92,9	120,9	182,7	16,8	0,73	272	205	385	22	33
12V 2 UPS 200	73,6	110,6	170,8	219,5	325,7	8,40	1,46	272	205	385	30,1	41
12V 3 UPS 300	103,9	160,0	248,8	316,2	470,4	5,60	2,20	272	205	385	38,2	49
12V 4 UPS 400	136,3	207,4	325,0	412,9	613,3	4,20	2,93	272	205	385	47,3	58
12V 5 UPS 500	170,9	260,8	416,0	526,4	763,5	3,36	3,66	380	205	385	62,3	78
12V 6 UPS 600	205,6	324,0	505,1	636,1	904,6	2,80	4,39	380	205	385	70,5	86
6V 7 UPS 700	240,2	379,3	594,3	744,0	1051	1,20	5,13	272	205	385	37,7	49
6V 8 UPS 800	274,8	434,6	683,4	855,6	1200	1,05	5,86	272	205	385	41,9	53
6V 9 UPS 900	309,4	486,0	750,3	922,6	1308	0,93	6,59	380	205	385	51,6	68
6V 10 UPS 1000	346,2	533,4	820,8	1023	1418	0,84	7,32	380	205	385	55,7	72
6V 11 UPS 1100	385,1	584,8	887,7	1109	1525	0,76	8,05	380	205	385	58,8	75
6V 12 UPS 1200	421,9	632,2	956,4	1190	1630	0,70	8,79	380	205	385	63	79

1,2) internal resistance and short - circuit - current from IEC 896-1,

3) dry-charged

4) filled and charged

* 100W is the averaged power per plate at the 10min rate.

3. Design

positive electrode	round-grid plate with circular bars in a corrosion-resistant PbSb _{1,6} SnSe alloy
negative electrode	flat plate with long life expander and low antimony alloy
separation	microporous separator
electrolyte	sulphuric acid of 1,28 kg/l,
lid	SAN in dark grey colour
container	high impact, transparent SAN
blocks with blind cells	4V, 6V, 8V, 10V
plugs	labyrinth plugs for arresting aerosol, optional ceramic plug or ceramic funnel plug according to DIN 40740
pole bushing	100% gas- and electrolyte-tight, sliding-pole
pole	M10, brass insert
connector	flexible insulated copper cable, with cross-section of 35, 50, 70, 95 or 120 mm ²
kind of protection	IP 25 regarding DIN 40 050, touch protected according VBG 4

4. Charging

IU - characteristic	I _{max} without limitation U = 2,25 –2,27 V/cell between 10°C and 55°C ΔU/ΔT = -0,004 V/K below 10°C in the monthly average
boost charge	U = 2,35 to 2,40V/cell, time limited
charging time up to 92%	6 h with 1,5*I ₁₀ initial current, 2.23 V/cell, 50% C10 discharged

5. Discharge characteristics

reference temperature	20°C
initial capacity	100%
depth of discharge	normally up to 80%
depth of discharges	more than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

6. Maintenance

every 6 month	check battery voltage, pilot block voltage, temperature
every 12 month	take down battery voltage, block voltage, temperature,

7. Operational data

operational life	> 12 years at 20°C > 6 years at 30°C > 3 years at 40°C
water refilling interval	more than 3 years at 20°C
IEC 896-1 cycles	800
self-discharge	approx. 3% per month at 20°C
operational temperature	-20°C to 55°C recommended 10°C to 30°C
ventilation requirement	f1=0,5 (low-antimony alloy) according VDE 0510 part 2
measurements according	DIN 40 737 part 3
tests according	IEC 896-1,
applicable standards	VDE 0510, part 2
transport	no dangerous goods during road transport