Technical Specification for Stationary VLA Batteries

1. Applications

NBA OPzS - Batteries belong to the most enduring lead acid batteries. They are suitable for stand - by operations as well as for capacity loads. They perfectly meet requirements for bridging times between 1h and more than 10h.

Fields:

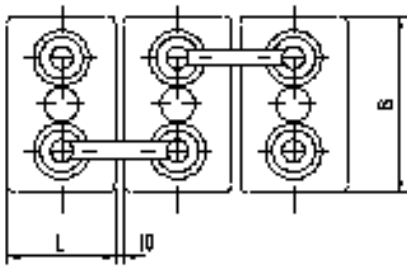
Telecommunications centers
Railway stations, airports
Microwave radio systems
Signaling, control and regulating systems
UPS and emergency lighting
Power generation plants, industry
Photovoltaics

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9002

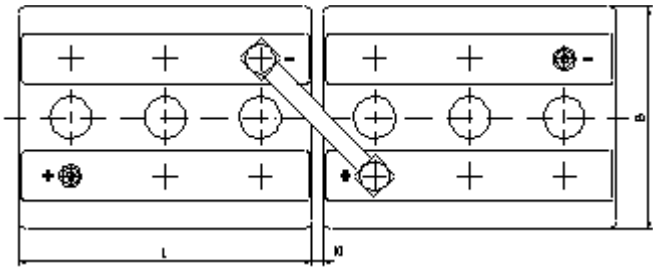
2. Types, capacities, dimensions, mass

Type	C10	C5	C3	C1	Ri 1)	Ik 2)	length	width	height max	mass 3)	mass 4)
.	Ah	Ah	Ah	Ah	mΩ	kA	mm	mm	mm	kg	kg
Ue (V/cell)	1,80	1,77	1,75	1,67	.	.					
2V 1 OPzS 50	50	45	36	24	3,96	0,58	103	206	426	4,5	7
2V 2 OPzS 100	100	85	69	48	1,98	1,16	103	206	426	7,5	6,5
2V 3 OPzS 150	150	125	102	72	1,27	1,74	103	206	426	10	6
2V 4 OPzS 200	200	170	138	96	1,01	2,06	103	206	426	12	6
2V 5 OPzS 250	250	210	171	120	0,81	2,57	124	206	426	14	7,5
2V 6 OPzS 300	300	250	204	144	0,69	3,14	145	206	426	16	9
6V 3 OPzS 150	150	125	107	75	3,71	1,62	233	224	426	23,5	13,5

1, 2) internal resistance and short - circuit - current according to IEC 896-1 3) dry-charged 4) filled and charged



2V 1 OPzS 50 to 2V 6 OPzS 300



6V 9 (3×3) OPzS 150

3. Design

positive electrode	tubular - plate with a woven polyester gauntlet and solid grids in a corrosion-resistant PbSb1.6SnSe - alloy
negative electrode	grid - plate in a low antimony alloy with long life expander
separation	microporous separator
electrolyte	sulphuric acid with a density of 1,24 kg/l, +20° C (DIN 43 520)
container	impact resistant, transparent SAN with electrolyte level indicators
lid	high impact SAN (Styrol-Acryl-Nitril) in dark grey colour
easy utilisation	delivery in dry charged or wet charged condition
plugs	labyrinth plugs for arresting aerosol or optional ceramic plugs according DIN 40 740
pole - bushing	Leak proof safety pole
kind of pole	M10 brass insertion
connectors	flexible insulated copper cables, with cross-section of 35, 50, 70 or 95 mm²
kind of protection	IP 25 regarding DIN 40 050, touch protected according VBG 4.

4. Charging

IU - characteristic	Imax without limitation U = 2,23 V/cell +- 1%, between 10° C and 55° C D U/D T = -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 90%	6h 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 DOD	normally up to 80% V
deep discharges	more than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

6. Maintenance

every 6 months	check battery voltage, pilot block voltage, temperature
every 12 months	record battery and block voltages and temperatures check connectors

7. Operational data

operational life	>15 years at 20° C >7,5 years at 30° C
water - refilling - interval	more than 2 years at 20° C
IEC 896-1 cycles	1200
self-discharge	app. 3% per month at 20° C
operational temperature	-20° C to 50° C recommended 10° C to 30° C

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ventilation requirement	50% f1=0,5 - low antimony alloy according to VDE 0510 part 2
battery according	DIN 40 736, 737 part 3
tests according	IEC 896-1,
safety standard	VDE 0510, part 2
transport	no dangerous goods during road transport

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