

BAE SECURA OPzS-N7 BLOCK

Technical Specification for Stationary VLA – Raised Post Block Batteries

1. Application

The OPzS Series flooded tubular plate 6 and 12V multi-cell blocks are one of the most enduring lead acid batteries on the market today. They are ideally suited for stand-by operations as well as for capacitive loads. They perfectly meet requirements for bridging times between 1h to more than 10h. The raised post “N7” design permits individual inter-cell connection resistance testing.

This battery has an IEC 896-1 cycle rating of 1200 to 80% DOD, and is great for backup power in the applications listed below:

Application Uses:

Power generation plants
Electrical utilities applications
Telecommunications
Microwave radio systems
Emergency lighting
Outdoor enclosures
Photovoltaic applications

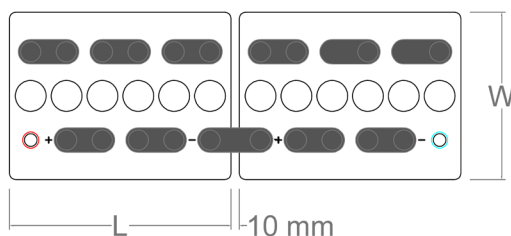


2. Types, capacities, dimensions, weights

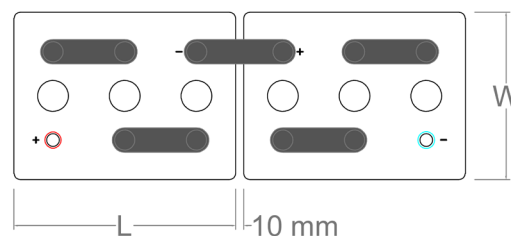
Type	1 min 25°C	C ₁ 25°C	C ₄ 25°C	C ₈ 25°C	C ₁₂ 25°C	R _i 1)	I _k 2)	Length (L)	Width (W)	Height (H)	Weight dry	Weight filled	Lead mass
U _e V/cell	Amps 1.75	Ah 1.75	Ah 1.75	Ah 1.75	Ah 1.75	mΩ	kA	inch	inch	inch	lbs	lbs	lbs
12V 1 OPzS 50-N7	90.8	29	45	53	60	19.20	0.64	10.71	8.07	15.16	65.6	90.4	55.1
12V 2 OPzS 100-N7	167	58	90	104	118	9.60	1.28	10.71	8.07	15.16	82.1	105.8	77.1
12V 3 OPzS 150-N7	235	87	137	159	180	6.40	1.92	14.96	8.07	15.16	117.0	153.0	107.4
6V 2 OPzS 100-N7	167	58	90	104	118	4.71	1.33	10.71	8.07	15.16	48.9	79.8	39.7
6V 3 OPzS 150-N7	235	87	137	159	180	3.10	1.92	10.71	8.07	15.16	62.9	92.6	53.7
6V 4 OPzS 200-N7	294	115	182	212	240	2.40	2.56	10.71	8.07	15.16	75.9	102.5	69.0
6V 5 OPzS 250-N7	345	142	228	265	300	1.92	3.20	14.96	8.07	15.16	91.2	133.2	84.2
6V 6 OPzS 300-N7	393	169	274	318	360	1.60	3.84	14.96	8.07	15.16	104.2	143.1	99.5

1) Internal resistance from IEC 60896-11; 2) Short circuit current from IEC 60896-11; All data is subject to change.
Height (H) is the maximum distance between container bottom and top of bolts in assembled condition.

3. Terminal positions



12V 1 OPzS 50-N7 to 12V 3 OPzS 150-N7



6V 2 OPzS 100-N7 to 6V 6 OPzS 300-N7

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4. Design

Positive electrode	Tubular plate with a polyester gauntlet and solid grids in a corrosion-resistant PbSb1.6SnSe alloy
Negative electrode	Round-grid flat plate in low antimony alloy with long-life expander material
Separation	Microporous separator
Electrolyte	Sulphuric acid with a density of 1.24 kg/l,
Container	High impact, transparent SAN (Styrene-Acrylonitrile), UL 94 HB rating
Lid	High impact ABS, UL 94 V-0 rating, dark grey color
Blocks with blind cells	4V, 8V, and 10V
Flame arrestors	Includes standard ceramic arrestors with optional ceramic flip-top funnel arrestors available according to DIN 40740
Pole - bushing	100% gas and electrolyte tight, sliding, injection-moulded "Panzerpole"
Kind of pole	M10 brass insertion
Inter-cell connector	Insulated solid copper connectors with cross sections of 90, 150 or 300 mm ² depending upon application
Inter-tier connectors	Flexible insulated copper cables
Connector screw	M10 stainless steel with insulated cap
Kind of protection	IP 25 regarding DIN 40050, touch protected according VBG 4

5. Charging

IU - characteristic	Recommended: $I_{\max} = 2 \times I_{10}$ $U = 2.23 \text{ V/cell} \pm 1\%$, between 10°C and 30°C (50°F and 86°F) $\Delta U/\Delta T = \pm 0.003 \text{ V/K}$ below 10°C in the monthly average
Float current	15 mA/100 Ah, increasing to 30 mA/100 Ah at the end of life
Equalize charge	$U = 2.33 \text{ to } 2.40 \text{ V/cell}$, time limited
Charging time up to 90%	6h with $1.5 \times I_{10}$ initial current, 2.23 V/cell, 80% C3 discharged

6. Discharge characteristics

Reference temperature	25°C (77°F)
Initial capacity	95% or better at time of delivery
Depth of discharge (DOD)	Normally up to 80%
Deep discharges	More than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) have to be avoided

7. Maintenance

Every 6 months	Check and record battery voltage, pilot cell voltages and temperatures
Every 12 months	Check and record battery voltage, cell voltages and temperatures

8. Operational data

Operational life	20 years in standby operation, float at 20°C to 25°C (68°F to 77°F)
Water - refilling - interval	Up to 3 years, float at 20 °C to 25 °C (68°F to 77°F)
IEC 60 896-2 cycles	> 1200
Self-discharge	Approx. 3% per month at 20°C (68°C)
Operational temperature	-20°C to 55°C (-4°F to 131°F); recommended 10°C to 30°C (50°F to 86°F)
Battery according to	DIN 40737 part 3
Tests according to	IEC 60896-11
Safety standard, ventilation	DIN EN 50272-2
Transport	Subject to DOT Regulations – See SDS sheet for details

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