

# BAE SECURA OPzS BLOCK-N6

## Technical Specification for Stationary VLA – Raised Post Block Batteries

### 1. Application

The OPzS Series flooded tubular plate 6-12V 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 new raised-post “N6” design permits individual intercell connection resistance testing.

This battery has an IEC 896-2 cycle rating of 1200 to 80% DOD, and is great for backup power in the applications listed below:

#### Application Uses:

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



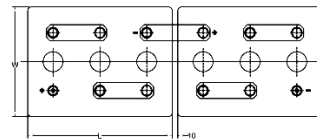
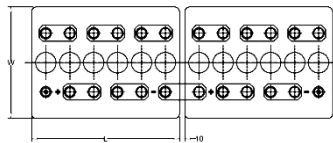
### 2. Types, capacities, dimensions, mass

Type	1 min 25°C	C1 25°C	C4 25°C	C8 25°C	C12 25°C	Ri 1)	I <sub>k</sub> 2)	length	width	height (max.)	mass 3)	mass 4)	lead mass
U <sub>e</sub> V/cell	Amps	Amps	Amps	Amps	Amps	mΩ	kA	inch	inch	inch	lbs	lbs	lbs
12V 1 OPzS 50-N6	61.0	28.4	10.2	6.1	4.7	19.20	0.64	10.71	8.07	15.16	68.1	95.0	50.1
12V 2 OPzS 100-N6	122.0	56.7	20.4	12.3	9.4	9.60	1.28	10.71	8.07	15.16	87.5	110.5	74.7
12V 3 OPzS 150-N6	183.0	85.1	30.6	18.3	14.2	6.40	1.92	14.96	8.07	15.16	119.5	155.6	106.6
6V 3 OPzS 150-N6	183.0	85.1	30.6	18.3	14.2	3.10	1.92	10.71	8.07	15.16	64.0	91.0	57.0
6V 4 OPzS 200-N6	236.6	111.3	41.5	24.6	18.9	2.40	2.56	10.71	8.07	15.16	77.2	103.6	69.4
6V 5 OPzS 250-N6	295.8	138.6	51.9	30.8	23.7	1.92	3.20	14.96	8.07	15.16	94.8	134.5	82.8
6V 6 OPzS 300-N6	354.9	167.0	62.3	37.0	28.4	1.60	3.84	14.96	8.07	15.16	109.3	147.0	97.2

1, 2) internal resistance and short - circuit - current according to IEC 60 896-11

3) dry-charged

4) filled and charged



12V 1 OPzS 50-N6 to 12V 3 OPzS 150-N6

6V 3 OPzS 150-N6 to 6V 6 OPzS 300-N6

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### 3. 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 (Styrol-Acrylic-Nitrile), UL-94 rating: HB
Lid	high impact SAN in dark grey color, UL-94 rating: HB
Blocks with blind cells	4V, 8V, and 10V
Flame arrestors	includes standard ceramic arrestors with optional ceramic flip-top funnel arrestors acc. DIN 40 740 available
Pole - bushing	100% gas- and electrolyte-tight, sliding, injection-moulded "Panzerpole"
Kind of pole	M10 brass insertion
Intercell connector	lead plated solid copper connectors with cross-sections of 90, 150 or 300 mm <sup>2</sup> depending upon application
Inter-tier connectors	flexible insulated copper cables
Connector screw	M10 stainless steel
Kind of protection	IP 25 regarding DIN 40050, touch protected according VBG 4.

### 4. Charging

IU - characteristic	$I_{max}$ without limitation $U = 2.23$ V/cell +/- 1%, between 10°C and 30°C (50 °F and 86 °F) $\Delta U/\Delta T = +/- 0.003$ V/K below 10°C in the monthly average
Float current	15mA/100Ah, increasing to 30mA/100Ah at the end of life
Equalize charge	$U = 2.33$ to 2.40V/cell, time limited
Charging time up to 90%	6h with 1.5· $I_{10}$ initial current, 2.23 V/cell, 80% C3 discharged

### 5. Discharge characteristics

Reference temperature	25°C (77 °F)
Initial capacity	100% 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

### 6. Maintenance

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

### 7. Operational data

Operational life	20 years in stand-by operation, float at 20 to 25 °C (68 °F to 77 °F)
Water - refilling - interval	2 to 3 years at 25°C (77 °F) for first 12-15 years at normal float conditions
IEC 60 896-2 cycles	> 1200
Self-discharge	app. 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 40 737 part 3
Tests according to	IEC 60 896 - 11
Safety standard, ventilation	DIN EN 50 272-2
Transport	batteries are not subject to ADR (road transport), if the conditions of the special rule (chapter 3.3) are observed.

BAE Batteries USA • 484 County Highway V V • Somerset WI 54025

TEL (715) 247-2262 FAX (715) 247-5741

[www.baebatteriesusa.com](http://www.baebatteriesusa.com)

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