

# BAE SECURA OPzS BLOCK

## Technical Specification for Stationary VLA - 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.

This battery has an IEC 896-2 cycle rating of 1200 to 80% DOD, and is used 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



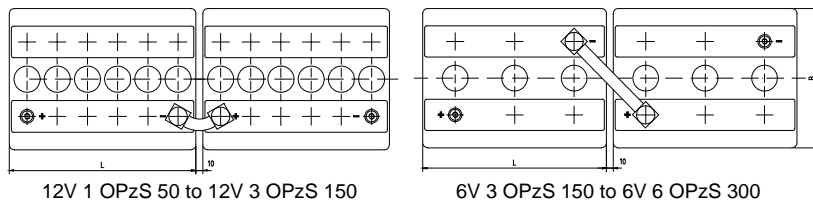
### 2. Types, capacities, dimensions, mass

Type	C10 20°C	C8 25°C	C5 25°C	C3 25°C	C1 25°C	Ri 1)	Ik 2)	length	width	height (max.)	mass 3)	mass 4)	lead mass
U <sub>e</sub> V/cell	Ah	Ah	Ah	Ah	Ah	mΩ	kA	inch	inch	inch	lbs	lbs	lbs
12V 1 OPzS 50	67	56	42	40	28	19.20	0.64	10.71	8.07	15.16	63.9	88.2	48.5
12V 2 OPzS 100	103	98	85	79	57	9.60	1.28	10.71	8.07	15.16	90.4	112.4	79.4
12V 3 OPzS 150	156	147	127	118	85	6.40	1.92	14.96	8.07	15.16	123.5	156.5	112.4
6V 4 OPzS 200	216	197	176	159	111	2.40	2.56	10.71	8.07	15.16	79.4	105.8	72.8
6V 5 OPzS 250	288	246	220	198	139	1.92	3.20	14.96	8.07	15.16	103.6	136.7	92.6
6V 6 OPzS 300	337	296	264	237	167	1.60	3.84	14.96	8.07	15.16	121.3	152.1	110.2

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

3) dry-charged

4) filled and charged



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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 connectors	insulated PVC coated 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 with insulated cap
Kind of protection	IP 25 regarding DIN 40050, touch protected according VBG 4.

### 4. Charging

I <sub>U</sub> - characteristic	I <sub>max</sub> 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 <sub>10</sub> 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.

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