

BAE SECURA OPzS BLOCK

Technical Specification for Stationary VLA-Block Batteries

1. Application

BAE SECURA OPzS-Block batteries belong to the most enduring lead-acid batteries. They are suitable for stand-by operations as well as for capacitive loads. They perfectly meet requirements for autonomy times between 30 min and more than 10 h.

Fields:

Telecommunications
Emergency lighting
Microwave radio systems
Power generation plants



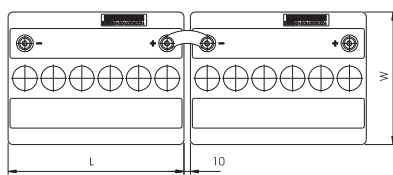
2. Types, capacities, dimensions, weights

Type	C _{10h} 20 °C Ah	C _{5h} 20 °C Ah	C _{3h} 20 °C Ah	C _{1h} 20 °C Ah	C _{8h} 25 °C Ah	R _i 1) mΩ	I _k 2) kA	Length (L) mm	Width (W) mm	Height (H) mm	Weight dry kg	Weight filled kg
U _e V/cell	1.80	1.77	1.75	1.67	1.75							
12V 1 OPzS 50	56.2	49.0	42.9	32.2	55.6	19.20	0.64	272	205	385	29.5	41.0
12V 2 OPzS 100	108	94.5	82.8	62.2	106	9.60	1.28	272	205	385	38.0	47.6
12V 3 OPzS 150	168	147	128	96.8	166	6.40	1.92	380	205	385	51.0	69.4
6V 4 OPzS 200	225	196	171	129	222	2.40	2.56	272	205	385	33.0	46.5
6V 5 OPzS 250	281	245	214	161	277	1.92	3.20	380	205	385	41.7	60.4
6V 6 OPzS 300	337	294	257	193	333	1.60	3.84	380	205	385	48.5	66.5

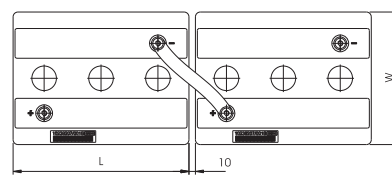
1, 2) Internal resistance and short circuit current according to IEC 60896-11

BAE SECURA OPzS-Blocks as dry charged version are marked with „TG“, e.g. 12 V 3 OPzS 150 TG.

All values given in the table correspond to 100 % DOD. Please consider item 5.



12 V 1 OPzS 50 to 12 V 3 OPzS 150



6 V 4 OPzS 200 to 6 V 6 OPzS 300

3. Design

Positive electrode	tubular-plate with woven polyester gauntlet and solid grids in a corrosion-resistant PbSb1.6SnSe-alloy
Negative electrode	grid-plate in low antimony alloy with long-life expander material
Separation	microporous separator
Electrolyte	sulphuric acid with a density of 1.24 kg/l

Technical Specification for BAE *SECURA OPzS BLOCK*

Container	high impact, transparent SAN (Styrol-Acrylic-Nitrile), UL-94 rating: HB
Lid	high impact SAN in grey colour, UL-94 rating: HB
Blocks with blind cells	4 V, 6 V, 8 V, 10 V
Plugs	labyrinth plugs for arresting aerosol, optional ceramic plugs or ceramic funnel plugs according to DIN 40740
Pole-bushing	100 % gas- and electrolyte-tight, sliding, plastic coated "Panzerpol"
Kind of pole	M10 brass insertion
Connectors	flexible insulated copper cables with cross-section of 25, 35, 50, 70, 95 or 120 mm ² , on request: insulated solid copper connectors with cross-section 90, 150 or 300 mm ²
Connector screw	M10, steel, insulated, with measuring point
Kind of protection	IP 25 regarding DIN EN 60529, touch protected according to VBG 4

4. Charging

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

5. Discharge characteristics

Reference temperature	20 °C (68 °F)
Initial capacity	according to IEC 60896-11: 95 % at the 1 st cycle, 100 % at the 5 th cycle
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 battery voltage, pilot block voltages, temperatures
Every 12 months	record battery and block voltages and temperatures

7. Operational data

Operational life	18 years in stand-by operation, float at 20 °C to 25 °C (68 °F to 77 °F)
Water-refilling-interval	>3 years, float at 20 °C to 25 °C (68 °F to 77 °F)
IEC 60896-11 cycles	>1,200
Self-discharge	approx. 3 % per month at 20 °C (68 °F)
Battery temperature	-20 °C to 55 °C (-4 °F to 131 °F) recommended 10 °C to 30 °C (50 °F to 86 °F)
Standard	DIN 40737-3
Tests according to	IEC 60896-11
Safety standard, ventilation	EN 50272-2
Transport	Batteries are not subject to ADR (road transport), if the conditions of special rule 598 (chapter 3.3.) are observed.



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