BAE SECURA OPzV BLOCK

Technical Specification for Stationary VRLA – Block Batteries

1. Application

The BAE OPzV Series VRLA tubular plate gel batteries belong to the best EUROBAT classification for maintenance free lead-acid batteries. These are classified as >12 year, long life, the highest classification according to EUROBAT. They are ideally suited for stand-by operations with high requirement of operational safety. They perfectly meet requirements for bridging times between 1h to more than 10h.

In applications with high requirements of operational safety and bridging times of 1h to more than 10h, the BAE OPzV is the right choice.

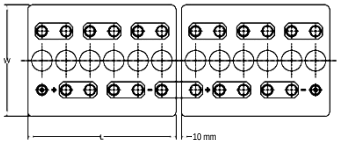
Application Uses:
Telecommunications
Microwave radio systems
Emergency lighting
Power generation plants
Electrical utilities applications
Outdoor enclosures
Photovoltaic applications

2. Types, capacities, dimensions, mass

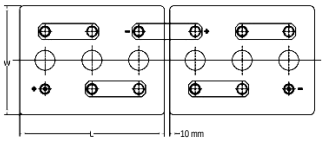
Type	1 min 25°C	C_1 25°C	C_4 25°C	C_8 25°C	C_{12} 25°C	R_i 1)	I_k 2)	Length (L)	Width (W)	Height (H)	Weight filled	Lead mass
U_e V/cell	Amps 1.75	Ah 1.75	Ah 1.75	Ah 1.75	Ah 1.75	mΩ	kA	inch	inch	inch	lbs	lbs
12V 1 OPzV 50	116	38	51	60	62	21.60	0.58	10.71	8.07	15.16	89.4	59.1
12V 2 OPzV 100	210	71	96	108	114	10.80	1.15	10.71	8.07	15.16	109.8	80.9
12V 3 OPzV 150	295	105	142	164	172	7.20	1.73	14.96	8.07	15.16	166.4	117.2
6V 3 OPzV 150	295	105	142	164	172	3.47	1.85	10.71	8.07	15.16	96.5	57.9
6V 4 OPzV 200	369	142	192	212	230	2.70	2.30	10.71	8.07	15.16	112.4	77.2
6V 5 OPzV 250	436	170	241	281	289	2.16	2.88	14.96	8.07	15.16	145.6	95.3
6V 6 OPzV 300	501	213	288	336	347	1.80	3.45	14.96	8.07	15.16	161.6	113.9
2V 12 OPzV 600	1100	420	575	635	690	0.29	7.46	8.07	10.71	15.16	112.4	77.2
2V 15 OPzV 750	1300	408	720	840	865	0.24	9.00	8.07	14.96	15.16	145.6	95.3
2V 18 OPzV 900	1500	635	860	1005	1038	0.21	10.45	8.07	14.96	15.16	161.6	113.9

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 the bolts in assembled condition.

3. Terminal positions



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



6V 3 OPzV 150-N7 to
6V 6 OPzV 300-N7

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4. Design

Positive electrode	Tubular - plate with a polyester gauntlet and solid grids in a corrosion-resistant PbCaSn - alloy
Negative electrode	Grid - plate in a PbCaSn alloy with long - life expander material
Separation	Microporous separator
Electrolyte	Sulphuric acid with a density of 1.24 kg/l, fixed as a GEL by fumed silica
Container and lid	High impact SAN (Styrol-Acrylic-Nitrile), grey coloured, UL-94 rating: HB (Alternatively container and lid in ABS (Acrylonitrile-Butadiene-Styrene), UL-94 rating: V0)
Blocks with blind cells	4V, 8V, and 10V
Valve	Valve with flame arrestor, opening pressure approx. 120 mbar, closing pressure approx. 50 mbar
Pole - bushing	100% gas and electrolyte tight, sliding, injection moulded "Panzerpol"
Kind of pole	M10 brass insertion
Intercell connectors	Insulated solid copper connectors with cross-sections of 90, 150 or 300 mm² 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	I_{max} without limitation U = 2.25V/cell +- 1%, between 10°C and 45°C (50°F to 113°F) $\Delta U/\Delta T$ = -0,003 V/K below 10°C in the monthly average
float current	20 – 30 mA/100Ah
boost charge	U = 2.33 to 2.40V/cell, time limited
charging time up to 92%	6h with $1.5 \cdot I_{10}$ initial current, 2.25 V/cell, 50% C10 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 voltage and temperature
every 12 months	Check and record battery, cell voltages and temperatures

8. Operational data

Classification - EUROBAT	> 12 years, Long life
Operational life	15 to 20 years in stand-by operation, float at 20°C to 25°C (68°F to 77°)
Maintenance-free	No topping off water during life
IEC 60 896-2 cycles	>1200
Self-discharge	approx. 2% per month at 20°C (68°F)
Operational temperature	-20°C to 45°C (-4°F to 113°F), recommended 10°C to 30°C (50°F to 86°F), short-periods 45°C to 55°C (113°F to 131°F)
Standard	DIN 40742 part 1
Tests according to	IEC 60896-21, -22
Safety standard, ventilation	DIN EN 50272-2, Ventilation requirements are reduced to 20% compared to those for vented batteries of the same capacity
Transport	Subject to DOT Regulations – See SDS for details

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