

BAE SECURA OPzV BLOCK-N7

Technical Specification for Stationary VRLA – Raised Post 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. The raised-post “N7” design permits individual internal and connection Ohmic testing on a per cell basis for a significant increase in reliability.

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



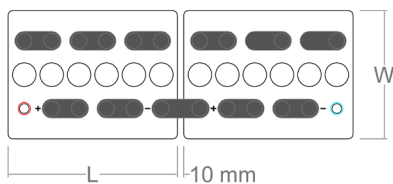
 UL file no. MH64832

2. Types, capacities, dimensions, mass

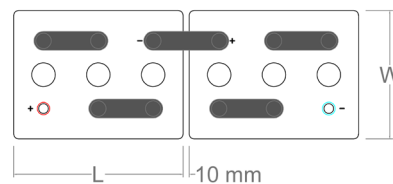
Type	1 min 25°C	C ₁ 25°C	C ₄ 25°C	C ₈ 25°C	C ₁₂ 25°C	R _i 1)	I _k 2)	Length (L)	Width (W)	Height (H)	Weight filled	Lead mass
U _e V/cell	Amps	Ah	Ah	Ah	Ah	mΩ	kA	inch	inch	inch	lbs	lbs
12V 1 OPzV 50-N7	83	35	51	60	64	21.60	0.58	10.71	8.07	15.16	89.4	59.1
12V 2 OPzV 100-N7	162	64	96	108	116	10.80	1.15	10.71	8.07	15.16	109.8	80.9
12V 3 OPzV 150-N7	245	95	142	164	175	7.20	1.73	14.96	8.07	15.16	166.4	117.2
6V 3 OPzV 150-N7	245	95	142	164	175	3.47	1.85	10.71	8.07	15.16	96.5	57.9
6V 4 OPzV 200-N7	328	125	192	212	235	2.70	2.30	10.71	8.07	15.16	112.4	77.2
6V 5 OPzV 250-N7	406	155	241	281	295	2.16	2.88	14.96	8.07	15.16	145.6	95.3
6V 6 OPzV 300-N7	472	185	288	336	354	1.80	3.45	14.96	8.07	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	Round-grid flat 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: V-0
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
Inter-cell connectors	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	I_{max} without limitation $U = 2.25V/cell \pm 1\%$, 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· 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
UL Safety Recognition	UL 1989 Recognized, UL File No. MH64832

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