BAE *SECURA OGi BLOCK*

Technical Specification for Stationary VLA-Block Batteries

1. Application

BAE *SECURA OGi BLOCK* batteries are robust and for high discharge-performances optimised lead-acid batteries. They are particularly suitable for autonomy times of a few minutes to one hour.

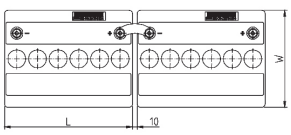
BAE OGi batteries are used for uninterrupted power supplies (UPS), to start diesel engines and for emergency power supplies in switch stations of utilities, in signal systems of railway applications or in other stations.

2. Types, capacities, dimensions, weights

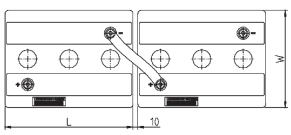
Type	$C_{10\,h}$ 20 °C Ah	$C_{3\,h}$ 20 °C Ah	$C_{1\,h}$ 20 °C Ah	$C_{30\,min}$ 20 °C Ah	$C_{10\,min}$ 20 °C Ah	$C_{5\,min}$ 20 °C Ah	$C_{8\,h}$ 25 °C Ah	R_i 1) mΩ	I_k 2) kA	Length (L) mm	Width (W) mm	Height (H) mm	Weight dry kg	Weight filled kg
U_e V/cell	1.80	1.75	1.70	1.65	1.65	1.65	1.75							
12 V 1 OGi 25	30	23	18	15	10	7	30	16.78	0.74	272	205	385	22.0	35.0
12 V 2 OGi 50	60	47	36	30	20	14	61	9.11	1.37	272	205	385	30.0	42.0
12 V 3 OGi 75	91	71	54	45	31	20	91	6.39	1.95	272	205	385	37.2	47.5
12 V 4 OGi 100	112	90	69	58	40	27	113	5.00	2.50	272	205	385	44.5	54.2
12 V 5 OGi 125	151	118	90	75	50	33	152	4.19	2.99	380	205	385	54.5	71.5
12 V 6 OGi 150	166	133	103	86	59	39	167	3.60	3.47	380	205	385	60.7	74.7
6 V 7 OGi 175	206	163	124	103	69	44	208	1.61	3.89	272	205	385	34.8	48.0
6 V 8 OGi 200	234	185	141	118	78	50	236	1.44	4.32	272	205	385	40.0	51.0
6 V 9 OGi 225	262	207	159	132	86	55	264	1.33	4.68	380	205	385	46.0	63.3
6 V 10 OGi 250	289	230	176	147	95	60	292	1.23	5.05	380	205	385	50.0	67.0
6 V 11 OGi 275	317	252	193	162	103	65	320	1.15	5.40	380	205	385	54.0	71.0
6 V 12 OGi 300	344	274	210	176	111	69	348	1.09	5.73	380	205	385	57.6	72.5
2 V 24 OGi 600	703	555	425	355	234	150	708	0.16	12.95	205	272	385	40.0	51.0
2 V 30 OGi 750	869	690	528	442	286	182	872	0.13	15.29	205	380	385	50.0	67.0
2 V 36 OGi 900	1,030	822	631	529	335	211	1,040	0.12	17.38	205	380	385	57.6	72.5

1, 2) Internal resistance R_i and short circuit current I_k according to IEC 60896-11
Height (H) is the maximum height between container bottom and top of the bolts in assembled condition.
BAE *SECURA OGi* blocks are also available as dry pre-charged version. They are titled with additional "TG", e.g. 12 V 6 OGi 150 TG.
All values given in the table correspond to 100 % DOD without voltage drop of connectors. Please consider item 6.

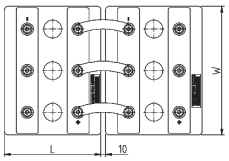
3. Terminal positions



12 V 1 OGi 25 to 12 V 6 OGi 150



6 V 7 OGi 175 to 6 V 12 OGi 300



2 V 24 OGi 600 to 2 V 36 OGi 900

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4. Design

Positive electrode	grid-plate with circular bars in a corrosion-resistant low antimony 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
Container	high impact, transparent SAN (Styrol-Acrylic-Nitrile), UL-94 rating: HB
Lid	high impact SAN in grey colour (colour may vary slightly from given image), UL-94 rating: HB
Blocks with blind cells	4 V, 6 V, 8 V, 10 V
Plugs	labyrinth plugs for arresting aerosols, 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, as option: 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 EN 60529, touch protected according to VBG 4

5. Charging

IU-characteristic	I_{max} without limitation U = 2.23 V/cell ± 1 %, between 10 °C and 30 °C (50 °F and 86 °F) in the monthly average otherwise $\Delta U/\Delta T$ = -0.003 V/cell per K
Float current	approx. 20 mA/100 Ah C_{10}, increasing to approx. 60 mA/100 Ah C_{10} at the end of service life
Boost charge	U = 2.33 to 2.40 V/cell, time limited
Charging time up to 90 %	6 h with 1.5 x I_{10} initial current, 2.23 V/cell, 50 % C_{10} discharged

6. Discharge characteristics

Reference temperature	20 °C (68 °F)
Initial capacity	according to IEC 60896-11: 95 % at the 1st cycle, 100 % at the 5th 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

7. Maintenance

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

8. Operational data

Service life	16 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	>1,000
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	dimensions according to 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 Provision 598 (Chapter 3.3) are observed. These cells/batteries are dangerous goods on sea transport. Declaration and packaging must comply with the requirements of IMDG-Codes.

12/2012 4804036 Technical details may be subject to alterations.

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