

Technical Specification for Stationary VRLA - Block - Batteries

1. Application

BAE OGiV - batteries are maintenance-free and classified as 10 + high integrity, the highest class according to EUROBAT. Where operational safety has top priority and short bridging times of 15 min to several hours are required BAE OGiV is the right choice.

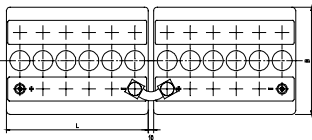
They are used as reserve power in telecommunications, radio relay stations, switching stations of utilities, emergency light equipment and uninterrupted power supplies.



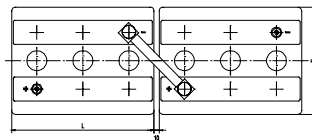
2. Types, capacities, dimensions, mass

Type	C10	C5	C3	C1	C1/2	C1/6	Ri 1)	Ik 2)	length	width	height (max.)	mass
Ue V / cell	Ah	Ah	Ah	Ah	Ah	Ah	mΩ	kA	mm	mm	mm	kg
12V 1 OGiV 25	28	23	22,2	18,3	15,7	12,1	19,20	0,65	272	205	385	35
12V 2 OGiV 50	51	46,5	44,4	36,6	31,5	24,1	9,60	1,29	272	205	385	44
12V 3 OGiV 75	77	70	66,6	54,6	47,2	36,3	6,40	1,94	272	205	385	53
12V 4 OGiV 100	101	93,5	89,1	73,2	63	48,3	4,80	2,59	272	205	385	62
12V 5 OGiV 125	130	113	108	91	78	59,8	3,84	3,23	380	205	385	84
12V 6 OGiV 150	157	136	130	108	93	71	3,20	3,88	380	205	385	93
6V 7 OGiV 175	178	153	150	125	107	82,2	1,37	4,53	272	205	385	53
6V 8 OGiV 200	205	179	172	142	122	93,3	1,20	5,18	272	205	385	57
6V 9 OGiV 225	229	203	191	161	135	103	1,07	5,80	380	205	385	73
6V 10 OGiV 250	255	228	218	180	148	112	0,96	6,47	380	205	385	78
6V 11 OGiV 275	281	255	241	198	161	121	0,87	7,14	380	205	385	81
6V 12 OGiV 300	308	281	266	216	175	130	0,80	7,76	380	205	385	85
2V 24 OGiV 600	615	536	517	427	366	280	0,13	15,92	205	272	385	57
2V 30 OGiV 750	765	684	653	539	444	335	0,11	18,82	205	380	385	81
2V 36 OGiV 900	924	843	799	648	525	390	0,09	23,00	205	380	385	85

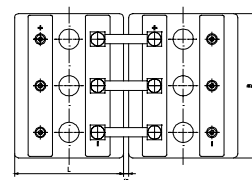
1), 2) Inner resistance and short-circuit current according to IEC 896-2



12V 1 OGiV 25 to 12V 6 OGiV 150



6V 7 OGiV 175 to 6V 12 OGiV 300



2V 24 OGiV 600 to 2V 36 OGiV 900

3. Design

positive electrode	round-grid plate with circular bars in a corrosion-resistant PbCaSn alloy
negative electrode	flat plate with long life expander and PbCaSn alloy
separation	microporous separator
electrolyte	sulphuric acid of 1,24 kg/l, fixed as GEL by fumed silica
container	grey coloured , high impact SAN, UL-rating 94HB
lid	grey coloured, high-impact SAN, UL-rating 94HB
blocks with blind cells	4V, 6V, 8V, 10V
pole bushing	100% gas- and electrolyte-tight, sliding pole
pole	with M10 brass inlay
valve	one valve per cell with flame arrestor, opening pressure 100 mbar, closing pressure 50 mbar
connector	flexible insulated copper cable, cross sections 35, 50, 70 or 95 mm ²
protection	IP 25 according to DIN 40050, touch-protected according to VBG 4

4. Charging

IU - characteristic	I _{max} without limitation U = 2,23 V/cell +- 1%, between 10°C and 45°C $\Delta U/\Delta T = -0,004$ V/K below 10°C in the monthly average
boost charge	U = 2,35V/cell, time limited
charging time up to 92%	6h with 1,5*I ₁₀ initial current, 2.23 V/cell, 50% C10 discharged

5. Discharge characteristics

reference temperature	20°C
initial capacity	100%
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
deep discharge recovery	the GEL design allows a complete recharging after an unwanted deep discharge

6. Maintenance

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

7. Operational data

classification according to EUROBAT	12+, high integrity
operational life	> 12 years at 20°C > 6 years at 30°C > 3 years at 40°C
maintenance-free	no topping-up during life
IEC 896-2 cycles	800
self-discharge	app. 2% per month at 20°C
operational temperature	-20°C to 45°C recommended 10°C to 30°C 45°C to 55°C only for short periods
deep discharge recovery	very good
ventilation requirement	25% (f ₁ =0,5 x f ₂ =0,5) according to VDE 0510 part 2
applicable standards	IEC 896-2, VDE 0510, part 2
transport	no dangerous goods during air-, sea- and road transport

Technical Specification for VRLA - Batteries

1. Application

BAE OGiV HP (high performance) - batteries are maintenance-free and designed for standby or float operation. Due to their low inner resistance they are well suited for medium and high-rate discharges.

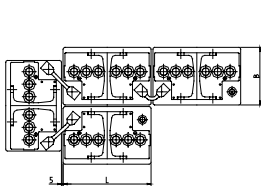
They are used for Uninterrupted Power supplies (UPS), battery-operated power supplies in telecommunications, radio relay stations, emergency light equipment and leisure applications.

For regular cyclic applications we recommend the sister line GiV nova trans block.

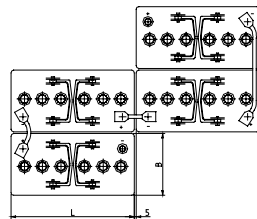


2. Types, capacities, dimensions, weights

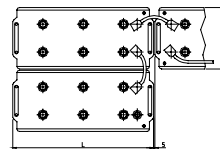
Type	C 10	length	width	height (max)	mass	energy density	max. current	recomm. connectors
	Ah	mm	mm	mm	kg	Wh/kg	A	mm ²
12V OGiV 42 HP	42	244	175	190	17	29	250	35
12V OGiV 55 HP	55	275	175	190	21	32	250	35-50
12V OGiV 80 HP	80	340	172	235	31	31	350	35-50
12V OGiV 105 HP	105	340	172	286	41	31	400	50
12V OGiV 125 HP	125	513	223	220	50	30	600	50
6V OGiV 180 HP	180	244	190	274	31	35	800	50-70



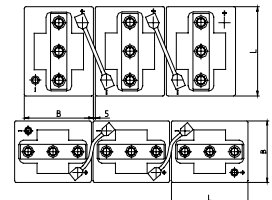
2V OGiV 42 HP - 12V OGiV 55 HP



12V OGiV 80 HP - 12V OGiV 105 HP



12V OGiV 125 HP



6V OGiV 180 HP

3. Design

positive electrode
negative electrode
separation
electrolyte
container, lid
pole bushing
terminal design

handles
valve

round-grid plate with circular bars in a corrosion-resistant PbCaSn alloy
flat plate with long life expander and PbCaSn alloy
microporous separator
sulphuric acid of 1,26 kg/l, fixed as GEL by fumed silica
impact-resistant polypropylen, coloured
100% gas- and electrolyte-tight
according to DIN 72311 part 4 (JEC 95-3. SAE)
12V OGiV 42 HP (Ford terminals)
integrated within the cover
one valve per cell with flame arrestor,

Technical Specifications for BAE *SECURA OGiV HP*

connector opening pressure 100 mbar, closing pressure 50 mbar
flexible insulated copper cable, encapsulated bolted clamps

4. Charging

IU - characteristic I_{max} without limitation
 $U = 2,27 \text{ V/cell} \pm 1\%$, between 10°C and 45°C
 $\Delta U/\Delta T = -0,004 \text{ V/K}$ below 10°C in the monthly average
boost charge $U = 2,35 \text{ V/cell}$, time limited
charging time up to 95% 6h with $1,5 \cdot I_{10}$ initial current, 2.27 V/cell, 80% C10 discharged

5. Discharge characteristics

reference temperature 25°C
initial capacity app. 95%
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
deep discharge recovery the GEL design allows a complete recharging after an unwanted deep discharge

6. List of capacities, inner resistances and short-circuit currents

Type	Ri	Isc	C20	C10	C5	C3	C1	C1/2	C1/6
	mOhm	kA	Ah	Ah	Ah	Ah	Ah	Ah	Ah
final discharge voltage V/cell			1,80	1,80	1,78	1,77	1,74	1,70	1,58
V/block			10,80	10,80	10,68	10,62	10,44	10,20	9,48
12V OGiV 42 HP	12,8	0,96	43,5	42	35,5	33	26	22	16
12V OGiV 55 HP	9,5	1,31	58	55	47,5	44	34,5	29	21,5
12V OGiV 80 HP	6,8	1,83	83	80	73	65	51	44	33
12V OGiV 105 HP	6,0	2,08	108	105	95,5	87	68,5	56,5	39
12V OGiV 125 HP	5,2	2,44	130	125	115	100	76	65	48
6V OGiV 180 HP	2,0	3,12	186	180	167	151,5	115,5	92	65

Ri... internal resistance und Isc...short-circuit current according to IEC 896-1

7. Maintenance

every 6 months check battery voltage, pilot block voltage, temperature
every 12 months record battery and block voltages and temperatures
check connectors

8. Operational data

classification according to EUROBAT 10 years, high performance
operational life > 10 y at 10°C
10 y at 20°C
5 y at 30°C
2,5 y at 40°C
maintenance-free no topping-up during life
IEC 896-2 cycles 350
self-discharge app. 2% per month at 25°C
operational temperature recommended: 10°C to 45°C
-20°C to 10°C with reduced performance
45°C to 55°C only for short periods
above 55°C not permitted
deep discharge recovery very good
ventilation requirement 25% ($f_1=0,5 \times f_2=0,5$) according to VDE 0510 part 2
applicable standards IEC 896-2, VDE 0510, part 2
transport no dangerous goods during air- sea- or land transport.

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ENERGY FROM BATTERIES

