

Technical Specification Valve-Regulated Lead-Acid Batteries (VRLA)



1. Application

Photovoltaic power supply of

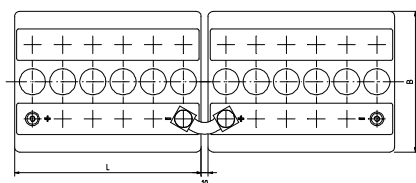
- telecommunication equipment as micro-wave amplifier, cellular phone stations, television relay installations etc.
- traffic equipment like traffic regulating systems, signal buoys, road lights
- remote weekend houses, fincas, huts in high mountains etc.

Solar and wind powered stations. In these cases the battery serves to buffer load peaks, to smooth the current and to reduce the operation time of Diesel engines at low power demand.

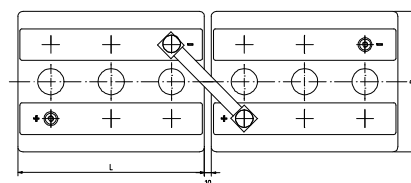
Preliminary Draft

2. TECHNICAL DATA (REFERENCE TEMPERATURE 20°C)

	C 100	C 20	C 10	C 5	C 1	Ri	Ik	Mass	Dimensions
	Ah	Ah	Ah	Ah	Ah	mΩ	kA	kg	mm
Ue 80%	1,91V	1,91V	1,90V	1,85V	1,82V				L x W x H
Ue 100%	1,80V	1,80V	1,80V	1,78V	1,67V				
12V 1 PVV 70	77	65	59	47	34	21,6	0,58	42,5	272 x 205 x 385
12V 2 PVV 140	139	117	107	97	69	10,8	1,15	50,5	272 x 205 x 385
12V 3 PVV 210	220	185	169	143	101	7,20	1,73	72	380 x 205 x 385
6V 4 PVV 280	285	240	219	192	129	2,70	2,30	48	272 x 205 x 385
6V 5 PVV 350	360	302	276	242	165	2,16	2,88	63	380 x 205 x 385
6V 6 PVV 420	420	357	326	291	200	1,80	3,45	70	380 x 205 x 385



12V 1 PVV 70 to 12V 3 PVV 210

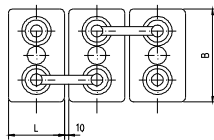


6V 4 PVV 280 to 6V 6 PVV 420

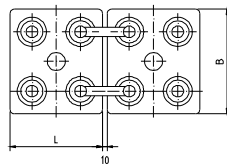
Technical Specification of **BAE SECURA PVV solar**

	C 100	C 20	C 10	C 5	C 1	Ri	Ik	Mass	Dimensions
	Ah	Ah	Ah	Ah	Ah	mΩ	kA	kg	mm
Ue 80%	1,92V	1,91V	1,90V	1,89V	1,80V				L x W x H
Ue 100%	1,80V	1,80V	1,80V	1,78V	1,67V				

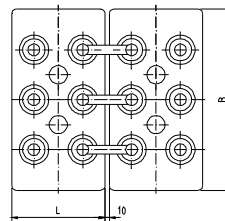
4 PVV 280	318	269	231	201	132	1,20	1,70	19,5	105 x 208 x 420
5 PVV 350	397	336	289	251	170	0,96	2,15	23,5	126 x 208 x 420
6 PVV 420	477	404	346	301	204	0,80	2,57	28	147 x 208 x 420
5 PVV 550	571	481	415	359	227	0,71	2,88	31	126 x 208 x 535
6 PVV 660	684	576	497	430	272	0,60	3,46	36,5	147 x 208 x 535
7 PVV 770	798	673	580	502	318	0,51	4,04	42	168 x 208 x 535
6 PVV 900	975	821	708	610	390	0,45	4,58	50	147 x 208 x 710
8 PVV 1200	1300	1095	944	814	520	0,34	6,10	68	215 x 193 x 710
10 PVV 1500	1600	1369	1180	1017	650	0,27	7,63	82	215 x 235 x 710
12 PVV 1800	1955	1647	1420	1221	780	0,23	9,15	97	215 x 277 x 710
12 PVV 2280	2230	1879	1620	1386	870	0,24	8,58	120	215 x 277 x 855
16 PVV 3040	2973	2506	2160	1849	1159	0,18	11,4	160,	215 x 400 x 815
20 PVV 3800	3717	3132	2700	2311	1449	0,14	14,3	200	215 x 490 x 815
24 PVV 4560	4460	3758	3240	2774	1739	0,12	17,1	240	215 x 580 x 815



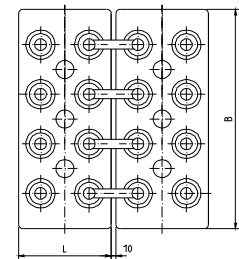
4 PVV 280 to 6 PVV 900



8 PVV 1200 to 12 PVV 2280



16 PVV 3040



20 PVV 3800 to 24 PVV 4560

3. NUMBER OF CYCLES AS FUNCTION OF DOD (DEPTH OF DISCHARGE)

Depth of discharge [DOD]	80%	70%	60%	50%	40%	30%	20%	10%
Cycles	1500	1800	2200	2800	3750	5200	8100	18000

4. CAPACITY AS FUNCTION OF TEMPERATURE

Temperature	20°C	15°C	10°C	5°C	0°C	-5°C	-10°C	-20°C
C100	100%	97%	93%	89%	85%	80%	74%	62%

5. OPERATION

At lower voltages as U80% the battery has to be disconnected to avoid a damage of the battery.

The charging current may vary from $5 \times I_{10}$ to $0,01 \times I_{10}$. The charging voltage has to be restricted to 2,30V to 2,40V.

At daily discharge below 0,4 C10 → 2,30V - 2,35V

At daily discharge up to 0,6 C10 → 2,35V - 2,40V

Are the monthly averaged temperatures below 10°C the charging voltage has to be increased by 0.03V per 10K.



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