

### 10-year LongLife Series

These VRLA batteries use thicker plates than the standard 4-5 year models. The electrolyte is absorbed by the AGM separators and plates and therefore these batteries can be mounted in any position. The one-way valve allow gases to escape, avoiding excessive pressure build-up in the case of accidentally overcharge.

#### General Features

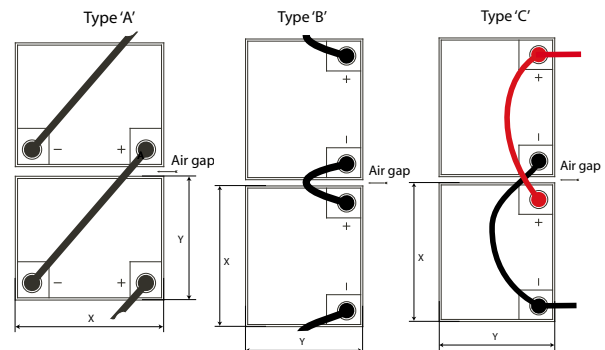
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- Can be mounted in any orientation.
- Computer designed lead, calcium tin alloy grid for high power density.
- Long service life, float or cyclic applications. Maintenance-free operation.
- Low self discharge.
- Case and cover are flame retardant ABS.

#### Features

- High Reliability and Good Quality
- Deep Discharge Recovery
- High Power Density
- Long Service Life, in Float or Cyclic Not for so called SLI applications (Starter, Lighting and Ignition)
- Flame retardant ABS, UL94V-0 / 92-2.
- International Standard, JIS and DIN

### Models Available

Model pbq...	Capacity in Ah	Dimensions (±2mm) (LxWxH1/H2)	Weight
7-12L	7.0	151x51x94/100mm	2.35kg
12-12L	12.0	151x98x95/101mm	3.67kg
17-12L	17.0	181x77x167mm	5.5kg
28-12L	28.0	166x175x125mm	8.1kg
33-12LL	33.0	195x130x155/168mm	11kg
40-12LL	40.0	197.5x165.5x170mm	14.7kg
55-12LL	55.0	239x132x205/210mm	18kg
65-12LL	65.0	350x167x179mm	23.4kg
80-12LL	80.0	350x167x179mm	24kg
100-12LL	100.0	330x171x215/220mm	32kg
120-12LL	120.0	410x176x227mm	38kg
150-12LL	150.0	482x170x242mm	47kg
200-12LL	200.0	522x238x218/223mm	65kg
230-12LL	230.0	520x269x203/208	72.6kg
100-6LL	100.0	194x170x205/210mm	16.5kg
225-6LL	225.0	320x176x225/230mm	30.5kg



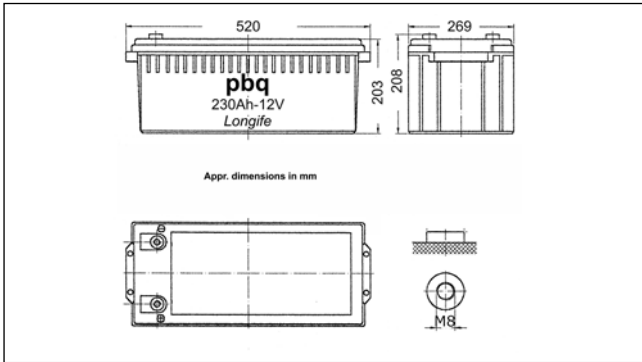
Battery	X [mm]	Y [mm]	Airgap [mm]	Type A connection	Type B connection	Type C connection	Connector size
pbq 33-12LL	195	130	5	ZKC250/6	ZKC100/6	ZKC250/6	M6 insert
pbq 40-12LL	197.5	165.5	10	ZKC250/6	ZKC100/6	ZKC250/6	M6 insert
pbq 55-12LL	239	132	10	ZKC250/6	ZKC100/6	ZKC250/6	M6 insert
pbq 65-12LL	350	167	10	ZKC320/6	ZKC100/6	ZKC240/6	M6 insert
pbq 80-12LL	350	167	10	ZKC320/6	ZKC100/6	ZKC240/6	M6 insert
pbq 100-12LL	330	171	10	ZKC320/6	ZKC100/6	ZKC240/6	M6 insert
pbq 120-12LL	410	176	10	ZKC420/8	ZKC125/8	ZKC420/8	M8 insert
pbq 150-12LL	482	170	10	ZKC550/8	ZKC125/8	ZKC550/8	M8 insert
pbq 200-12LL	238	522	10	ZKC550/8	ZKC125/8	ZKC420/8	M8 insert
pbq 230-12LL	269	520	10	ZKC700/8	ZKC125/8	ZKC420/8	M8 insert

Automotive posts: Set of one positive and one negative screw-in type automotive post M6: ZKTERM001  
Automotive posts: Set of one positive and one negative screw-in type automotive post M8: ZKTERM002

#### Inter-tier connector cables

1 meter M6	ZKC1000/6	For pbq 33, 55, 65, 80 and 100Ah
2 meter M6	ZKC2000/6	For pbq 33, 55, 65, 80 and 100Ah
1 meter M8	ZKC1000/8	For pbq 120, 150, 200 and 230Ah
2 meter M8	ZKC2000/8	For pbq 120, 150, 200 and 230Ah

Type number key for cables  
ZKCxxx/y  
xxx = length between connecting holes in mm  
y = bolt diameter  
6: for 6mm bolt, 50mm<sup>2</sup> copper cable diameter  
8: for 8mm bolt, 75mm<sup>2</sup> copper cable diameter

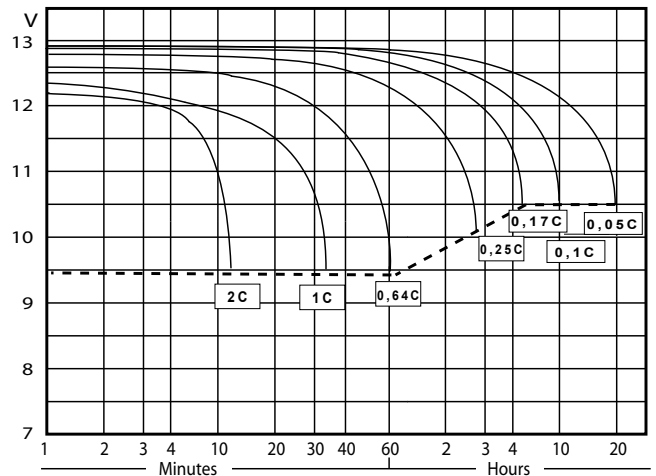
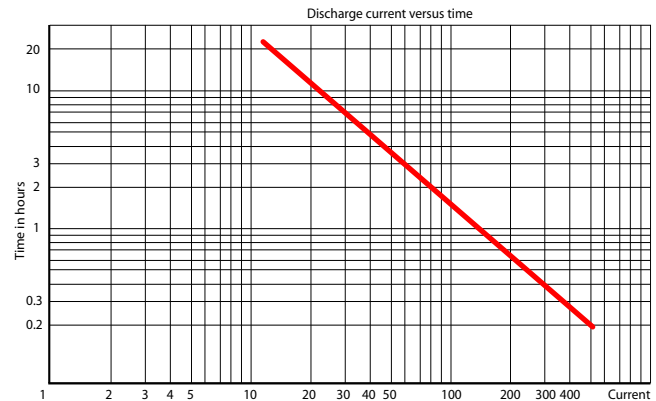


Voltage	: 12 Volt
Capacity	: 230Ah
Appr. dimensions	: 520x269x203/208 mm (LxWxH) (±2mm)
Terminal	: M8 insert (bolt supplied)
Container & lid	: Flame retardant ABS (V0)
Approximate weight	: 72.6kg
Certificate(s)	: CE, UL, EN60896-21/22:2004
RoHS Compliant	: Yes
Eurobat Compliant	: High Performance

**Typical Applications:**

- UPS Systems
- Emergency lighting systems
- Cordless cleaning equipment
- Telecommunication systems
- Auxiliary power supply for recreational vehicles and boats (non-SLI applications)
- Solar energy systems

<b>Capacity</b>	
10 hour rate (23,0A)	: 230Ah
5 hour rate (44,6A)	: 223Ah
1 hour rate (153A)	: 153Ah
<b>Internal Resistance (fully charged)</b> : 2.8mOhm	
<b>Capacity versus temperature</b>	
40°C	: 102%
25°C	: 100%
0°C	: 85%
-15°C	: 65%
<b>Max. discharge current</b> : 1.100A (5 sec)	
<b>Charge (constant voltage)</b>	
Maximum charge current 69A	
Float use: 13.6 - 13.8 Volt. -20mV/°C	
Cyclic use: 14.4 - 14.7 Volt. -30mV/°C	



Discharge data watt/battery

	DoD [V/battery]	15 min	30 min	45 min	1 hr	2 hrs	3 hrs	5 hrs	10 hrs
End Voltage	10.80	3894	2730	2112	1704	996	756.0	512.4	269.4
	10.50	3948	2754	2130	1728	1008	768.0	514.8	270.0
	10.20	3996	2772	2142	1746	1014	774.0	516.6	271.2
	9.90	4038	2796	2154	1764	1026	780.0	518.4	272.4
	9.60	4062	2814	2166	1776	1032.0	786.0	520.2	273.6