



Selecting a Lead Acid Battery for your Security Application

The Security Industry uses Lead acid batteries for stand-by power because they float charge well and have no usage memory. Sealed, gel type lead acid batteries are widely used for cleanliness, low maintenance, and the ability to be mounted in any position. When float charged, lead acid batteries typically last 4-6 years. A precision power supply/charger will provide the proper

voltage for any given temperature regardless of load. This is what provides long battery life from ESD power supplies.

Small sealed lead acid batteries used in the security industry are typically rated with a 20 hour (AH) ampere-hour capacity discharge time. The capacity increases a little when discharged at a greater than a 20 hour rate and the capacity decreases when discharged at less than a 20 hour rate. A 4AH battery divided by 20, will provide .2Amps of current for 20 hours. When any of the batteries are discharged at a 1 hour rate, the capacity is reduced to about 60% of 20 hour rate capacity.

The table below is built from data from the "Power Sonic Battery technical handbook". The standby table shows what kind of stand by time in hours you could expect for a given load and battery size. The table also has a 10% safety factor and a 3 Amp alarm load for 5 minutes. The table would be accurate for 12v sealed lead acid battery, or 2 12vdc batteries connected in series for 24vdc operation.

Battery Standby Time Table:

Standby Amps	4AH Hours	7AH Hours	12AH Hours	24AH Hours	40AH Hours
.06A	58h	106h	185h	376h	630h
.125A	27.9h	51h	89h	180h	301h
.25A	11.8h	25h	44h	90h	151h
.5A	5.3h	9.6h	19.9h	43h	73h
1A	1.9h	4.2h	7.9h	21.3h	36.4h
2A	.9h	2h	3.9h	8.5h	16h
3A	.6h	1.1h	2.4h	5.7h	9.5h
4A	.4h	.79h	1.5h	3.6h	7.4h
5A	.32h	.63h	1.2h	2.9h	5.9h
6A	.27h	.49h	.96h	2.4h	4.75h
7A	.23h	.42h	.83h	1.9h	3.8h
8A	.2h	.4h	.65h	1.6h	3.5h

Comments invited! JDB@SecurityPower.com By Jerry Baker V.P. Engineering



Electronic Security Devices
6111 Southfront Road, Suite J
Livermore, CA 94551

2/04 © Technical Literature jdb Selecting lead acid battery
applicationNotes\an3standby.doc

Manufacturers of High Quality Security Devices

Phone: (925) 243-8990 Fax: (925) 243-8999
ESD@SecurityPower.com www.SecurityPower.com