12LS-4.5

12V 4.5Ah

Design lifetime: 5 years



Q-Batteries 12LS-4.5 is an AGM battery, which is designed for standby applications such as fire-detecting-systems, UPS or burglar-systems.

## Application:

UPS, security- and telecommunicationsystems etc.











#### Specification:

Voltage Per Unit 12 V

Capacity 4.5 Ah @20hr-rate to 1.8V per cell @25°C

Cells Per Unit 6

Weight ca. 1,40 kg +/- 3%

Max. Discharge Current 45 A (5 sec.) Internal Resistance ca. 38m  $\Omega$ 

Operating Temperature Range Discharge: Charge: Storage:

Normal - 15°C - 50°C - 10°C - 50°C - 20°C - 50°C

Operating Temperature Range 25°C ± 5°C

Self Discharge Valve Regulated Lead Acid (VRLA) batteries can be stored for

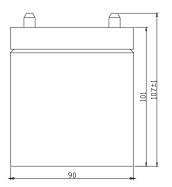
more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.

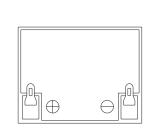
Terminal F1 (Fast on Terminal 4.75 mm)

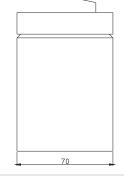
Container Material A.B.S. (UL94-HB)

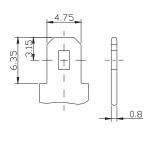
#### Dimensions:

90 Length x 70 Width x 107 mm Height







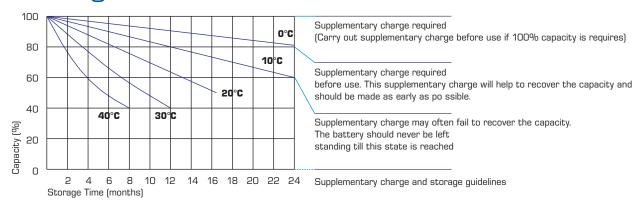




### Constant current discharge characteristics: A (25°C)

F.V/Time	5 Min.	10 Min.	15 Min.	30 Min.	1 HR	2 HR	3 HR	4 HR	5 HR	8 HR	10 HR	20 HR
9.60V	18.30	12.00	9.404	5.279	3.137	1.806	1.228	0.982	0.816	0.520	0.450	0.252
10.0V	17.64	11.70	9.102	5.211	3.051	1.770	1.205	0.969	0.802	0.518	0.445	0.243
10.2V	16.60	11.12	8.849	5.131	3.022	1.751	1.194	0.959	0.793	0.513	0.438	0.239
10.5V	14.92	10.40	8.347	4.990	2.963	1.728	1.184	0.950	0.784	0.508	0.436	0.232
10.8V	13.37	9.695	7.875	4.825	2.909	1.714	1.170	0.945	0.775	0.506	0.429	0.218
11.1 V	11.70	8.888	7.265	4.642	2.831	1.645	1.147	0.937	0.768	0.502	0.422	0.215

#### Storage characteristic:



# Capacity Factors with different Temperature:

Batte	ery Type	-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL	6V & 12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
Battery	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM	6V & 12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
Battery	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

# Charging Method:

Charge the batteries at least once every six months, if they are stored at 25°C

Constant Voltage (V)	-0.2C x 2h + 2.4-2.45V/Cell x 24h, max. Current 0.3CA						
Constant Current (A)	-0.2C x 2h + 0.1CA x 12h						
Fast	-0.2C x 2h + 0.3CA x 4.0h						