

AGM Battery (YD Series)

YD 12- 4.5 (12V 4.5Ah)

Specifications

Rated Voltage	12V	
Nominal Capacity	4.5Ah	(C ₂₀ , 1.75V/cell)
Dimension	Length	90±1mm (3.54 inches)
	Width	70±1mm (2.76 inches)
	Container Height	101±2mm (3.98 inches)
	Total Height	107±2mm (4.21 inches)
Approx Weight	1.39 Kg (3.06 lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity (25°C)	4.50 Ah	(20hr, 0.225A, 1.75V/cell)
	4.19 Ah	(10hr, 0.419A, 1.75V/cell)
	3.83 Ah	(5hr, 0.765A, 1.75V/cell)
	3.39 Ah	(3hr, 1.13A, 1.75V/cell)
	2.66 Ah	(1hr, 2.66A, 1.60V/cell)
Max. Discharge Current	75A (5s)	
Internal Resistance (25°C)	Approx 48mΩ	
Operating Temp. Range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°F)
	Storage	-15~40°C (5~104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 0.9A. Voltage 14.4V~14.7V at 25°C (77°F)Temp. Coefficient -30mV/°C	
Standby Use	Initial Charging Current less than 0.9A. Voltage 13.5V~13.8V at 25°C (77°F)Temp. Coefficient -20mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	YD series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



Applications

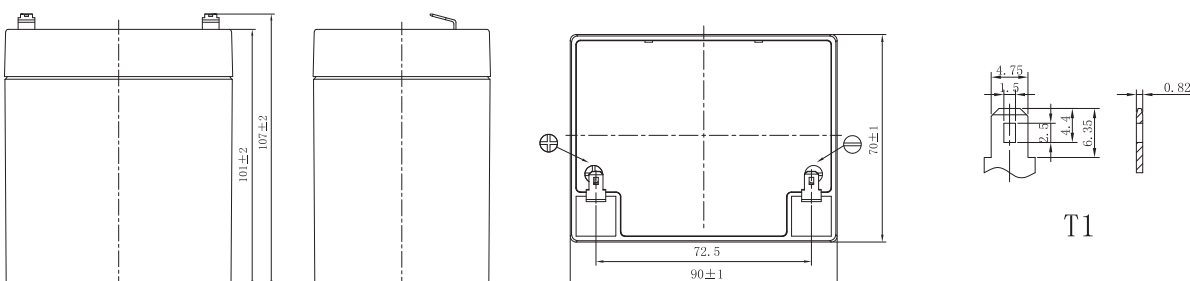
- All purpose
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system



General Features

- 5 years float life (25°C)
- Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- PbCaSn alloy for plate grids: less gassing, less self-discharging
- High quality AGM separator: extend cycle life and prevent micro short circuit
- High purity raw material: ensure low self discharge rate

Layout



AGM Battery (YD Series) YD 12- 4.5 (12V 4.5Ah)

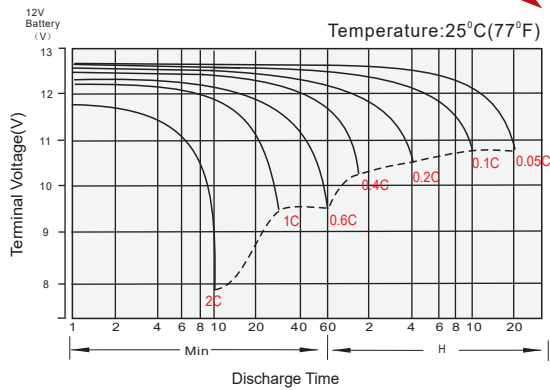
Constant Current Discharge (Amperes) at 25 °C (77 °F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	11.3	8.26	6.55	5.35	4.07	2.99	2.44	1.84	1.53	1.09	0.876	0.744	0.637	0.500	0.409	0.220
1.80V/cell	12.2	8.69	6.81	5.51	4.17	3.04	2.48	1.87	1.56	1.11	0.888	0.755	0.645	0.507	0.413	0.222
1.75V/cell	13.1	9.10	7.06	5.68	4.27	3.11	2.53	1.90	1.58	1.13	0.900	0.765	0.653	0.513	0.419	0.225
1.70V/cell	14.1	9.50	7.31	5.84	4.37	3.16	2.57	1.94	1.61	1.14	0.910	0.775	0.662	0.519	0.424	0.227
1.67V/cell	14.8	9.80	7.46	5.95	4.43	3.20	2.60	1.95	1.62	1.15	0.920	0.780	0.667	0.523	0.427	0.229
1.60V/cell	16.0	10.40	7.80	6.17	4.56	3.29	2.66	2.00	1.66	1.17	0.940	0.795	0.679	0.532	0.433	0.231

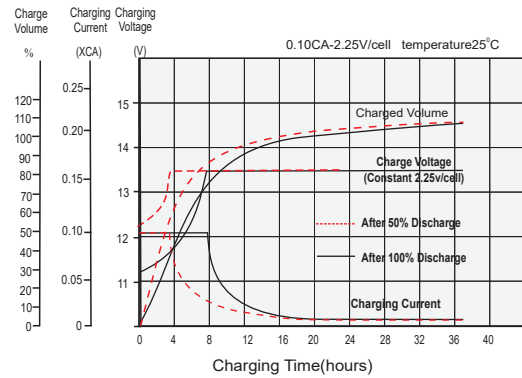
Constant Power Discharge (Watts/cell) at 25 °C (77 °F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	21.3	15.8	12.6	10.3	7.86	5.79	4.74	3.59	3.01	2.15	1.73	1.47	1.26	0.990	0.812	0.489
1.80V/cell	23.0	16.5	13.1	10.5	8.02	5.89	4.82	3.65	3.04	2.18	1.75	1.49	1.28	1.01	0.821	0.494
1.75V/cell	24.7	17.2	13.4	10.8	8.18	5.98	4.89	3.69	3.09	2.21	1.76	1.50	1.29	1.02	0.831	0.499
1.70V/cell	26.4	17.9	13.9	11.1	8.33	6.07	4.96	3.74	3.12	2.23	1.79	1.52	1.31	1.03	0.840	0.504
1.67V/cell	27.4	18.4	14.0	11.3	8.42	6.13	5.00	3.77	3.15	2.25	1.80	1.53	1.31	1.04	0.845	0.507
1.60V/cell	29.5	19.3	14.6	11.6	8.63	6.26	5.09	3.83	3.20	2.29	1.83	1.56	1.33	1.05	0.858	0.515

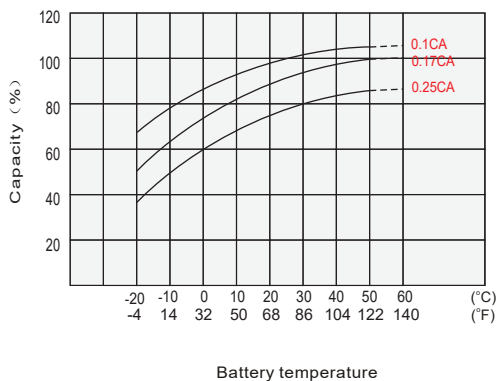
Discharge Characteristics



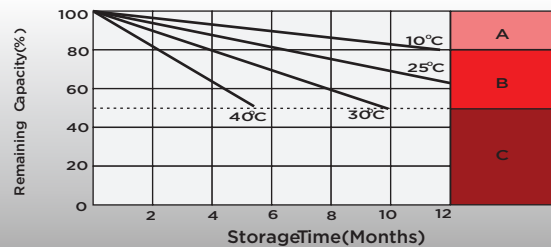
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Self Discharge Characteristics



- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging ways below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA
- C** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.