DEEP CYCLE/HIGH CYCLIC AGM SERIES

HDC20-12

SPECIFICATION

Nominal Voltage	12V	
Nominal Capacity(10HR)	18.0AH	
Dimensions	Length: Width: Container Height: Total Height:	181.5 ± 1mm (7.16 inches) 77 ± 1mm (3.03 inches) 167.5 ± 1mm (6.59 inches) 167.5 ± 1mm (6.59 inches)
Approx. Weight	6.00 Kg (13.23lbs) ± 4%	
Terminal	M5 (T12)	
Terminal Material	Copper	
Rated Capacity	19.3 AH/0.965A 18.0 AH/1.80A 15.8 AH/3.16A	(20hr, 1.80V/cell, 25°C/77°F) (10hr, 1.80V/cell, 25°C/77°F) (5hr, 1.75V/cell, 25°C/77°F)
Max. Discharge Current	270A (5s)	
Internal Resistance	Approx 15.0mΩ	
Operating Temp. Range	Discharge: Charge: Storage:	-15~50°C (5~122°F) 0~40°C (32~104°F) -15~40°C (5~104°F)
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 5.4A.Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity Affected by Temperature	40°C (104° F) - 103% | 0°C (32° F) - 86%	
Self-Discharge	SECUK HDC 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.	



APPLICATION

+ Electric tools
+ Vehicle in place of walking
+ Lawn mowers
+ Golf trolleys and golf cart
+ Portable apparatus, lights and instruments;
+ Electric toys
+ Illumination light
+ Fire alarms
+ Portable power
+ Wheelchairs
+ Medical equipments.

FEATURES

+ Lead calcium grids for extended life
+ Absorbent glass mat technology
+ Recognized by UL & CE
+ ABS container

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

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	26.4	22.2	19.4	13.9	11.1	8.99	5.58	4.35	3.53	2.87	2.50	2.04	1.70	0.956
1.80V/cell	33.7	26.8	22.9	16.5	12.9	10.1	6.09	4.68	3.77	3.08	2.68	2.16	1.80	0.965
1.75V/cell	37.0	29.3	24.6	17.1	13.4	10.5	6.32	4.77	3.85	3.16	2.75	2.20	1.82	0.974
1.70V/cell	40.3	31.2	25.9	17.8	13.9	10.9	6.57	4.90	3.95	3.24	2.81	2.23	1.84	0.992
1.65V/cell	43.5	33.2	27.5	18.8	14.2	11.2	6.75	5.11	4.09	3.33	2.87	2.27	1.87	1.004
1.60V/cell	47.3	35.5	29.3	19.8	14.9	11.6	6.98	5.27	4.22	3.44	2.94	2.29	1.89	1.010

Constant Power Discharge Characteristics (Watt/Cell) at 25°C (77°F)

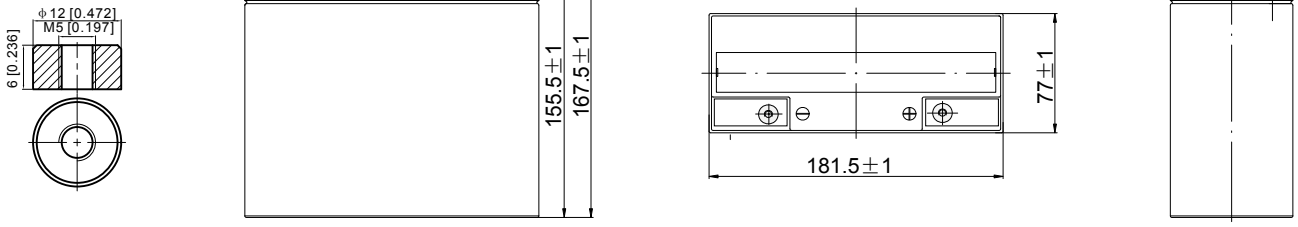
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	49.2	41.8	36.9	26.8	21.4	17.4	10.9	8.50	6.90	5.63	4.94	4.04	3.37	1.91
1.80V/cell	62.0	49.8	43.0	31.2	24.7	19.4	11.8	9.11	7.34	6.02	5.28	4.27	3.56	1.93
1.75V/cell	67.3	53.8	45.9	32.3	25.5	20.2	12.2	9.25	7.48	6.17	5.41	4.34	3.60	1.94
1.70V/cell	72.3	57.1	47.9	33.5	26.5	20.8	12.7	9.49	7.67	6.31	5.52	4.40	3.63	1.98
1.65V/cell	77.5	60.3	50.7	35.1	27.0	21.5	13.0	9.86	7.91	6.48	5.63	4.47	3.70	2.00
1.60V/cell	82.7	63.7	53.4	36.7	27.9	22.0	13.3	10.1	8.13	6.66	5.74	4.50	3.74	2.01

The above characteristics data can be obtained within three charge/discharge cycles.

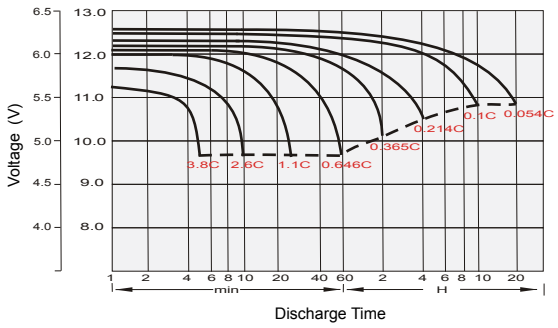
Dimensions

M5 (T12) Terminal

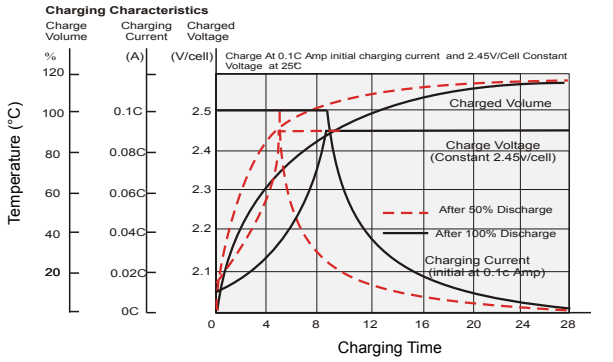
Unit:mm(inches)



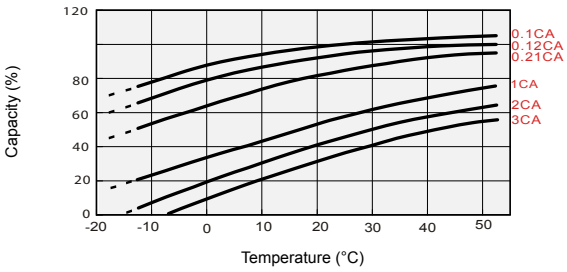
Discharge Characteristics



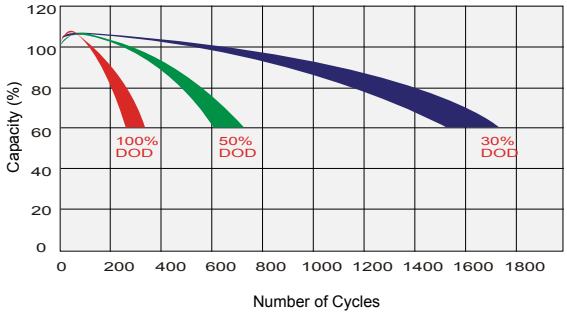
Charging Characteristics (cycle use)



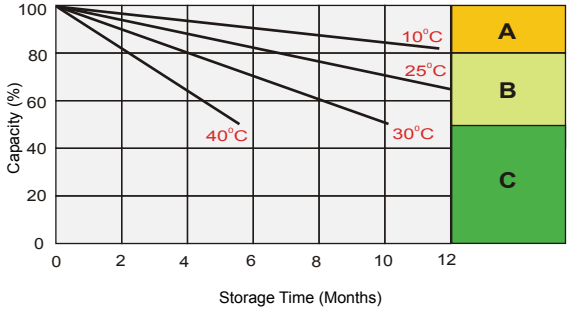
Temperature Effects in Relation to Battery Capacity



Cycle Life in Relation to Depth of Discharge



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 way as below:
1.Charged for above 3 days at limted current 0.25CA and constant volatge 2.25V/cell.
2.Charged for above 20hours at limted current 0.25CA and constant volatge 2.45V/cell.
3.Charged for 8~10hours at limted current 0.05CA .

C Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.