

#### General Features



- ◆ Using oxygen recombination technology: maintenance-free
- ◆ Special grid alloy: less gassing, less self-discharging
- ◆ For longer cycle life: special paste formula, over dimensioned negative plate, optimised manufacturing process, additives for deep discharge
- ◆ Thermal management system (optional)
- ◆ Special anti-vibration design (optional)
- ◆ High quality AGM separator: extend cycle life and prevent micro short circuit
- ◆ ABS material: increase the strength of battery container.  
(Flame-retardant ABS is optional)



Battery Type	Valve-Regulated, Absorbed Glass Mat (AGM) Technology			
Nominal Voltage	12V			
Capacity( 20 °C)	20HR(7.80A, 1.8V/cell)	10HR(14.55A, 1.8V/cell)	5HR(25.5A, 1.75V/cell)	1HR(87.9A, 1.6V/cell)
	156.0AH	145.5AH	127.6AH	87.9AH
Dimensions	Length	Length	Length	Length
	485mm(19.1inches)	170mm(6.69inches)	240mm(9.45inches)	240mm(9.45inches)
Approx Weight	Approx 43.5 kg (95.9lbs)			
Internal Resistance	Full Charged at 20 °C: Approx 2.5 mΩ			
Self Discharge	3% of capacity declined per month at 20 °C			
Capacity affected by Temperature(10HR)	40 °C	25 °C	0 °C	-15 °C
	103%	100%	86%	65%
Charging Voltage (V)	Cycle use		Float use	
	14.4V~15.0V at 20 °C. T emp. Coefficient -30mV/ °C		13.5V~13.8V at 20 °C. T emp. Coefficient -20mV/ °C	
Current	Max. Discharge Current(5s)		Initial Charging Current	
	1500A		Less than 45A	
Operating T emp. Range	Discharge		Charging	
	-15~50 °C(5~122 °F)		0~40 °C(32~104 °F)	
	Storage			
	-15~40 °C(5~104 °F)			

#### Constant Current Discharge (Amperes) at 20 °C (68 °F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	171.0	151.1	133.0	106.3	82.8	69.4	45.9	35.0	28.3	24.0	21.2	17.0	14.1	7.57
1.80V/cell	225.1	186.1	157.3	120.6	90.6	75.1	49.0	36.6	29.4	24.9	22.0	17.5	14.6	7.80
1.75V/cell	245.7	199.9	166.3	126.5	95.0	78.7	50.3	37.4	30.2	25.5	22.4	17.8	14.7	7.87
1.70V/cell	267.3	210.0	174.0	132.5	98.4	81.8	52.1	38.4	30.8	26.0	22.8	18.0	14.8	7.97
1.65V/cell	279.9	218.5	181.0	137.7	102.8	84.6	53.6	39.6	31.5	26.6	23.2	18.3	15.0	8.02
1.60V/cell	297.5	230.1	189.3	142.8	106.6	87.9	54.8	40.2	32.4	27.2	23.7	18.6	15.2	8.11

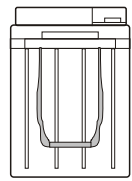
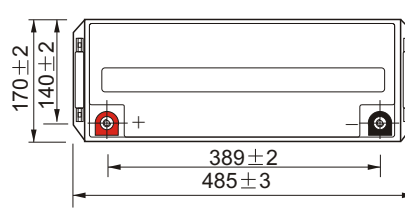
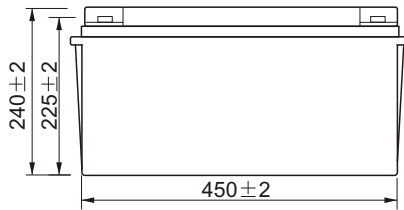
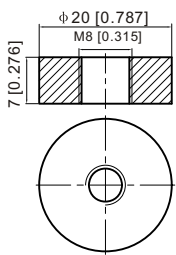
#### Constant Power Discharge (Watts) at 20 °C (68 °F)

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	320.5	285.3	252.6	203.7	159.9	134.8	89.8	68.7	55.9	47.5	42.3	33.9	28.3	15.3
1.80V/cell	415.3	347.3	296.6	229.5	174.0	145.2	95.2	71.6	57.8	49.2	43.6	34.9	29.2	15.7
1.75V/cell	447.6	368.8	310.8	239.2	181.3	151.3	97.3	72.8	59.2	50.2	44.3	35.4	29.4	15.8
1.70V/cell	479.9	383.0	322.3	248.7	186.9	156.6	100.5	74.4	60.0	50.8	44.9	35.7	29.6	16.0
1.65V/cell	497.2	395.6	333.3	257.0	194.3	161.5	103.0	76.5	61.3	52.0	45.7	36.2	29.9	16.1
1.60V/cell	519.2	411.5	345.1	264.8	200.4	167.2	104.9	77.4	62.7	52.9	46.4	36.5	30.2	16.2

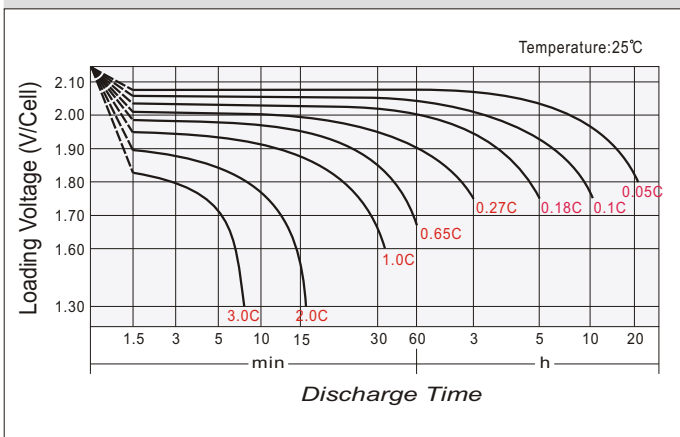
# Dimensions

## T11 Terminal

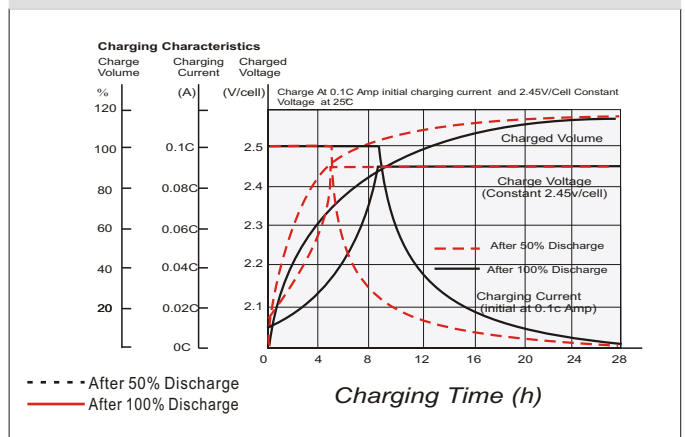
Unit: mm [inches]



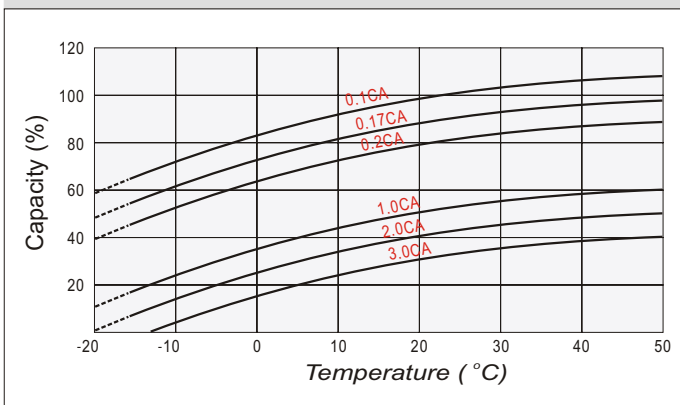
## Discharge characteristics



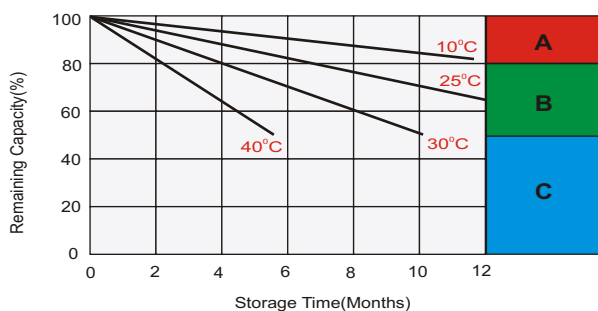
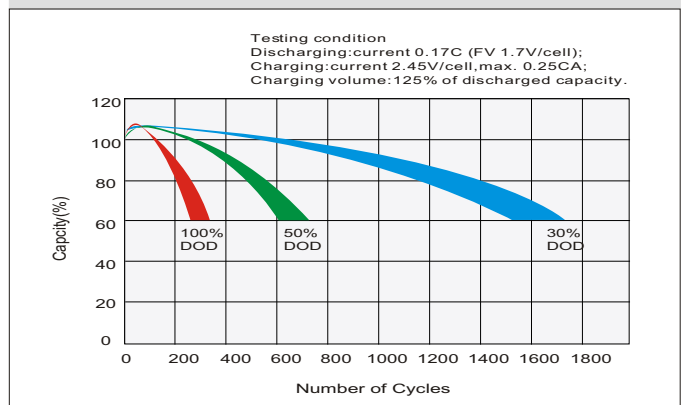
## Cycle use charging characteristics



## 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 limited current 0.25CA and constant volatge 2.25V/cell.
  2. Charged for above 20hours at limited current 0.25CA and constant volatge 2.45V/cell.
  3. Charged for 8~10hours 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.