

**UP-PL 190-12FT**



Specification		
Nominal Voltage	12V	
Nominal Capacity (10HR)	190.0AH	
Dimension	Length	562±3mm (22.13 inches)
	Width	125±2mm (4.92 inches)
	Container Height	320±3mm (12.60 inches)
	Total Height (with Terminal)	320±3mm (12.60 inches)
Approx Weight	Approx 60.0Kg (132.3 lbs)	
Terminal	T11	
Container Material	ABS	
Rated Capacity	190.0AH/19.0A	(10hr, 1.80V/cell, 25°C/77°F)
	188.0AH/23.5A	(8hr, 1.75V/cell, 25°C/77°F)
Max. Discharge Current	1500A (5s)	
Internal Resistance	Approx 3.0mΩ	
Operating Temperature Range	Discharge: -40~65°C (-40~149°F)	
	Change : 0~40°C (32~104°F)	
	Storage : -20~40°C (-4~104°F)	
Nominal Operating Temperature Range	25±3°C (77±5°F)	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Batteries can be stored up to 24 months at 25°C (77°F) and then a freshening charge is required.	



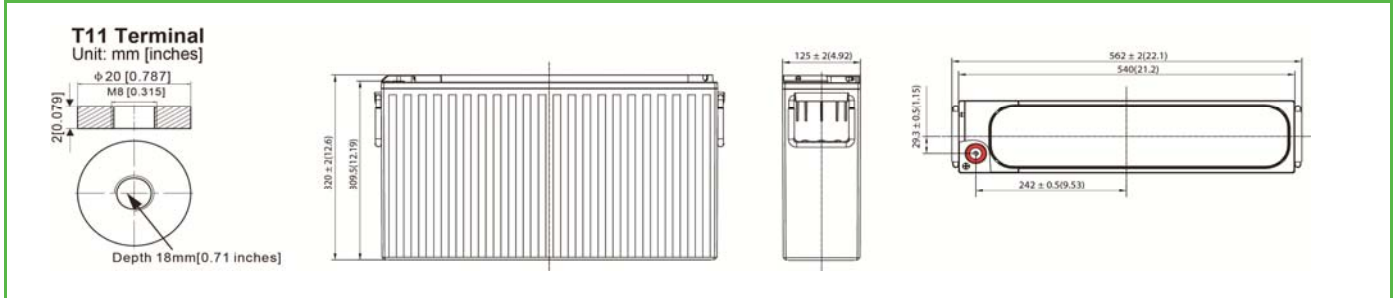
**Constant Current Discharge (Amperes) at 25°C (77°F)**

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V/cell	353.9	293.2	262.1	194.7	151.6	123.2	73.9	53.2	43.1	35.4	23.2	18.79	9.71
1.80V/cell	399.7	325.0	286.9	209.6	160.7	129.3	76.0	54.5	43.8	35.9	23.4	19.00	9.82
1.75V/cell	443.9	355.1	310.0	223.3	168.9	134.7	77.9	55.5	44.3	36.2	23.5	19.11	9.93
1.70V/cell	484.9	382.5	330.8	235.3	176.0	139.4	79.4	56.3	44.8	36.5	23.6	19.21	10.03
1.67V/cell	507.2	397.1	341.8	241.5	179.7	141.8	80.2	56.7	45.0	36.7	23.7	19.21	10.14
1.60V/cell	546.1	424.9	362.3	253.1	186.4	146.1	81.6	57.4	45.4	36.9	23.8	19.32	10.25

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

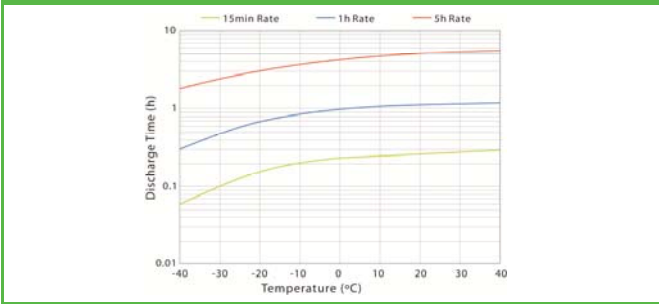
F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	8h	10h	20h
1.85V/cell	646.0	547.4	492.3	370.3	292.4	239.6	144.9	105.1	85.7	70.7	46.5	37.78	19.64
1.80V/cell	713.6	594.7	529.1	392.6	306.2	249.2	148.5	107.0	87.0	71.5	46.9	38.11	19.75
1.75V/cell	777.1	638.6	562.8	412.8	318.7	257.6	151.6	108.7	88.0	72.1	47.1	38.32	19.96
1.70V/cell	834.5	677.7	592.8	430.5	329.4	264.9	154.2	110.0	88.9	72.7	47.3	38.43	20.17
1.67V/cell	865.0	698.4	608.5	439.7	335.0	268.5	155.5	110.6	89.3	73.1	47.3	38.43	20.28
1.60V/cell	922.2	736.8	637.5	456.5	345.0	275.2	157.7	111.7	90.0	73.4	47.5	38.64	20.39

**Dimensions**

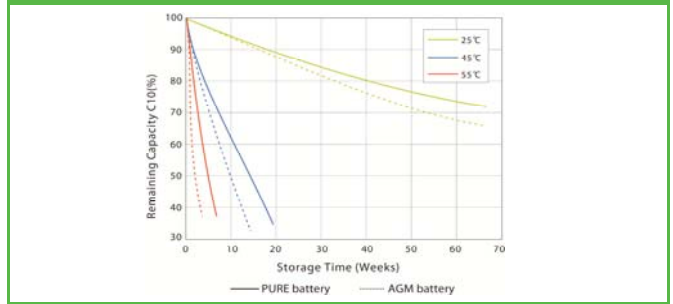


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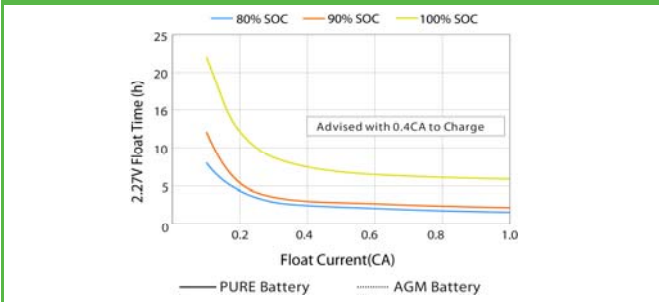
### Effect of Temperature on Discharge Time



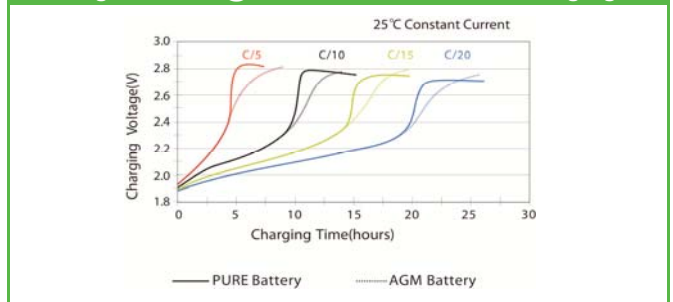
### Self Discharge Characteristics



### Float Current vs Float Time



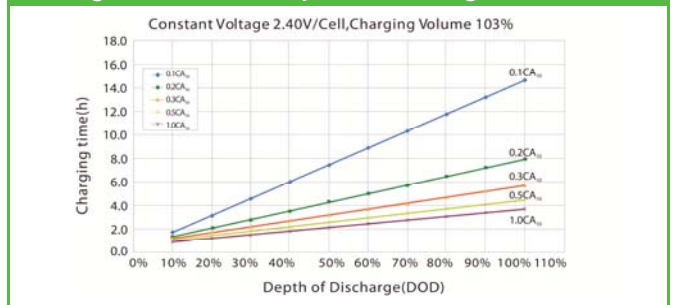
### Voltage Profiles @25°C Constant Current Charging



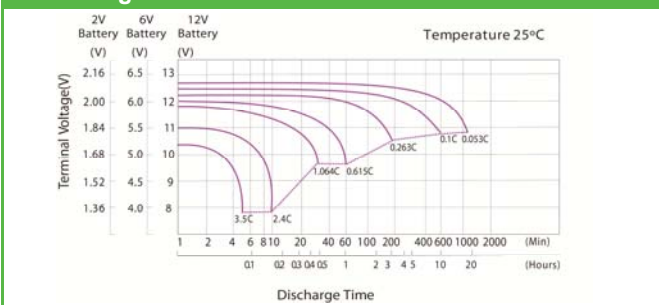
### Quick Charge / Float Charge



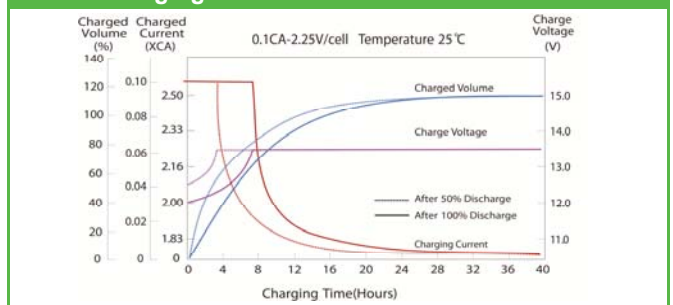
### Charge Time vs The Depth of Discharge



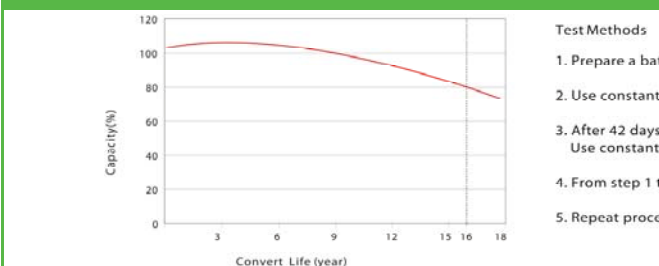
### Discharge Characteristics



### Float Charging Characteristics



### Float Life



#### Test Methods

1. Prepare a battery which past 1h rate capacity testing in 55 ± 2°C ambient testing temperature for test.
2. Use constant voltage 2.25V/cell to charge for 42 days.
3. After 42 days, take the battery out and put in 25 ± 2°C ambient temperature for 1h rate discharging test. Use constant voltage 2.35V/cell to charge battery for 24 hours.
4. From step 1 to 3 is a testing cycle which can be converted into 1 year service life.
5. Repeat procedure 1, 2, 3 till the capacity less than 80% of 1hour rate capacity.

