



ویرا انرژی مهر ماهان

VIRA ENERGY MEHR MAHAN Co.

UPS - Stabilizer - Battery



## Viracell 7.5A-12

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hour rate	(0.375A to 10.50V)	7.5Ah
10 hour rate	(0.713A to 10.50V)	7.125Ah
5 hour rate	(1.275A to 10.20V)	6.375Ah
1 C	(7.5A to 9.60V)	4.25Ah
3 C	(22.5A to 9.60V)	3Ah

Weight Approx. 2.3kg(5.06Lbs.)

Internal Resistance (at 1KHz) Approx. 19 mΩ

Maximum Discharge Current for 5 seconds: 112.5A

#### Charging Methods at 25°C (77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 2.25A

Standby use:

Float Charging Voltage 13.5 to 13.8V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C (5°F) to 40°C (104°F)

Discharge -15°C (5°F) to 50°C (122°F)

Storage -15°C (5°F) to 40°C (104°F)

#### Charge Retention (shelf life) at 20°C (68°F)

1 month 92%

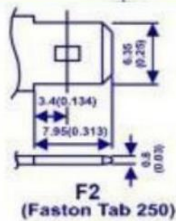
3 month 90%

6 month 80%

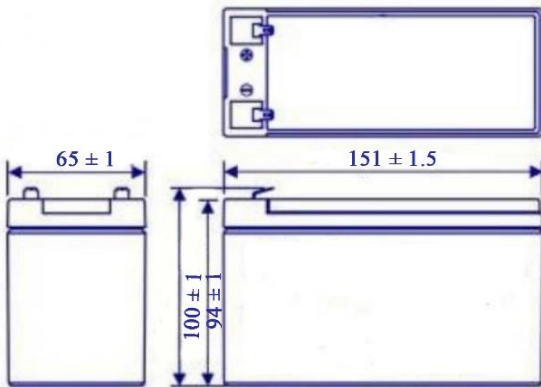
Case Material ABS UL94 HB

Terminal F2 (Faston Tab 250)

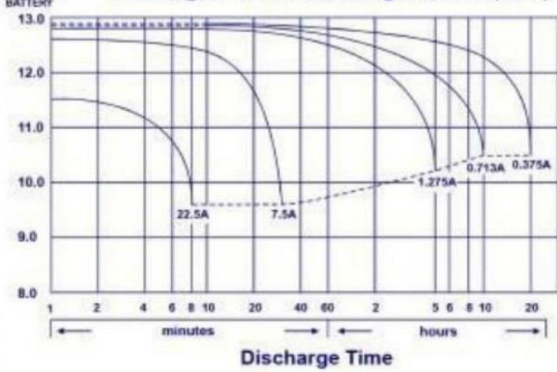
### Dimensions mm(inch)



F2 (Faston Tab 250)



(b) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



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## PERFORMANCE DATA

### Discharge Rates in watts to various End Voltages at 25°C(77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	45.0	49.6	53.0	55.9	57.0	58.0	60.5
10	min	33.5	36.7	38.6	38.9	39.4	39.6	40.8
15	min	25.0	27.0	28.5	29.5	29.8	30.1	30.6
30	min	15.7	16.5	17.0	17.5	17.7	17.9	18.1
60	min	9.92	10.2	10.4	10.6	10.6	10.6	10.8
120	min	5.37	5.54	5.65	5.75	5.77	5.83	5.89
180	min	3.82	3.94	4.04	4.13	4.17	4.22	4.26
240	min	2.96	3.09	3.18	3.23	3.25	3.28	3.32
300	min	2.47	2.56	2.65	2.72	2.75	2.77	2.79
600	min	1.38	1.44	1.52	1.54	1.54	1.55	1.57
1200	min	0.728	0.760	0.800	0.808	0.811	0.817	0.826

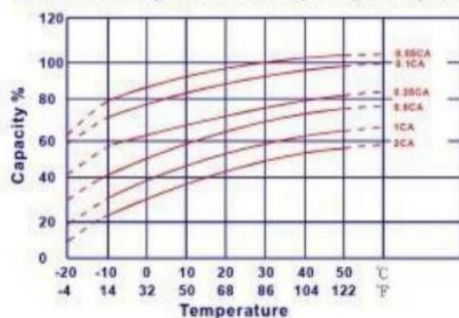
### -Discharge Rates in Amperes to Various End Voltages at 25°C(77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	24.8	27.7	30.1	32.2	33.0	33.8	35.6
10	min	17.5	19.2	20.4	20.8	21.0	21.3	22.0
15	min	14.2	15.1	15.6	15.9	16.0	16.2	16.5
30	min	8.61	8.92	9.14	9.30	9.38	9.45	9.61
60	min	4.96	5.11	5.23	5.34	5.37	5.40	5.46
120	min	2.62	2.71	2.78	2.84	2.86	2.89	2.92
180	min	1.83	1.89	1.95	2.00	2.02	2.04	2.07
240	min	1.42	1.49	1.54	1.57	1.58	1.59	1.61
300	min	1.19	1.24	1.31	1.33	1.34	1.35	1.36
600	min	0.654	0.683	0.724	0.732	0.736	0.741	0.751
1200	min	0.339	0.355	0.375	0.380	0.382	0.385	0.390

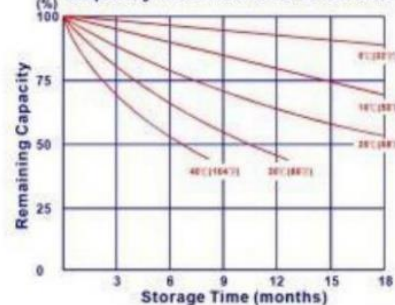
All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$ (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$ (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$ (+8%~-8%),  $X \geq 60\text{min}$ (+5%~-5%)

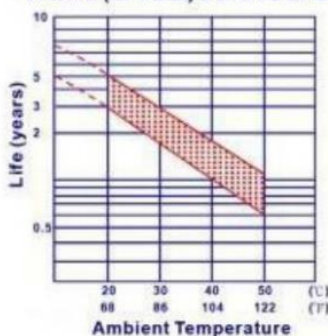
Effect of Temperature on Capacity 25°C(77°F)



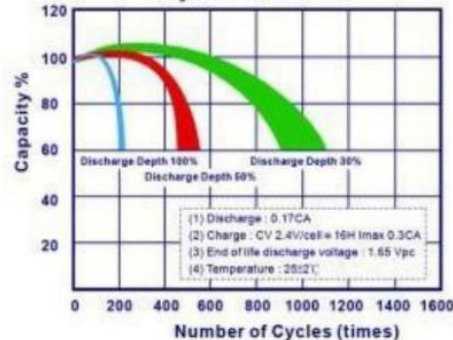
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life







یرا انرژی مهر ماهان

VIRA ENERGY MEHR MAHAN C

UPS - Stabilizer - Batter



## Viracell 9A-12

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hour rate	(0.45A to 10.50V)	9Ah
10 hour rate	(0.855A to 10.50V)	8.55Ah
5 hour rate	(1.53A to 10.20V)	7.65Ah
1 C	(9A to 9.60V)	5.7Ah
3 C	(27A to 9.60V)	3.6Ah

Weight Approx. 2.7kg(5.94Lbs.)

Internal Resistance (at 1KHz) Approx. 14 mΩ

Maximum Discharge Current for 5 seconds: 135A

#### Charging Methods at 25°C(77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 2.7A

Standby use:

Float Charging Voltage 13.5 to 13.8V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C(5°F) to 40°C(104°F)

Discharge -15°C(5°F) to 50°C(122°F)

Storage -15°C(5°F) to 40°C(104°F)

#### Charge Retention (shelf life) at 20°C(68°F)

1 month 92%

3 month 90%

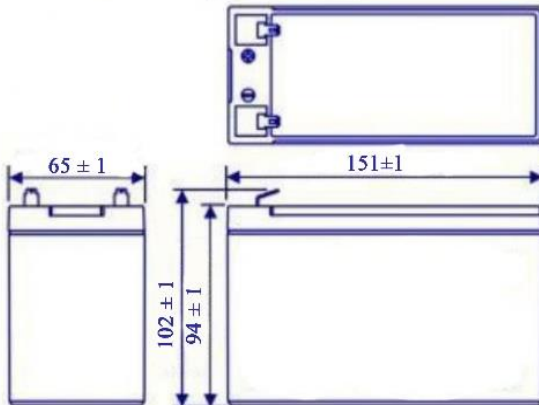
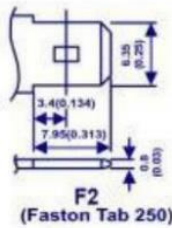
6 month 80%

Case Material ABS UL94 HB

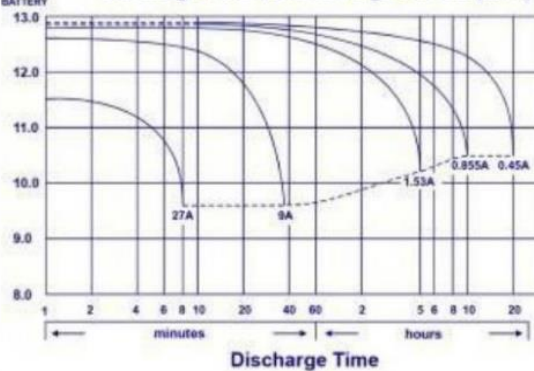
Terminal F2 (Faston Tab 250)

### Dimensions

mm(inch)



(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



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**PERFORMANCE DATA**

**Discharge Rates in watts to various End Voltages at 25°C(77°F)**

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	342	361	388	407	419	427	448
10	min	219	234	252	264	271	277	290
15	min	181	187	194	200	204	208	216
30	min	94.7	97.3	102	106	107	108	114
60	min	59.8	62.4	64.2	65.8	66.7	67.6	68.8
120	min	32.4	33.4	34.1	34.9	35.2	35.4	35.7
180	min	25.2	26.1	26.9	27.7	28.0	28.5	29.1
240	min	20.4	21.2	21.8	22.4	22.7	23.1	23.5
300	min	17.3	17.9	18.3	18.6	18.7	18.9	19.1
600	min	9.73	10.1	10.3	10.5	10.6	10.7	10.8
1200	min	5.12	5.29	5.41	5.44	5.46	5.48	5.51

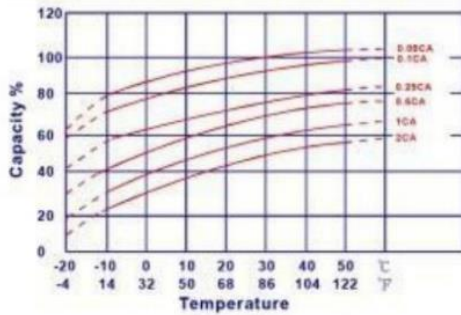
**-Discharge Rates in Amperes to Various End Voltages at 25°C(77°F)**

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	30.4	32.6	35.0	36.7	37.4	38.5	40.3
10	min	19.1	20.4	21.9	22.9	23.4	24.1	25.2
15	min	14.3	14.9	15.8	16.5	16.8	17.3	18.0
30	min	8.09	8.45	8.93	9.35	9.54	9.77	10.2
60	min	5.17	5.29	5.37	5.45	5.48	5.52	5.57
120	min	2.63	2.72	2.78	2.84	2.86	2.89	2.93
180	min	2.12	2.18	2.23	2.27	2.29	2.31	2.34
240	min	1.69	1.74	1.77	1.80	1.81	1.82	1.83
300	min	1.46	1.51	1.53	1.55	1.56	1.57	1.58
600	min	0.827	0.841	0.855	0.866	0.871	0.877	0.884
1200	min	0.427	0.442	0.451	0.456	0.459	0.462	0.466

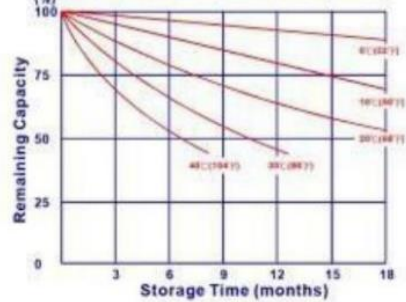
All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$ (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$ (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$ (+8%~-8%),  $X \geq 60\text{min}$ (+5%~-5%)

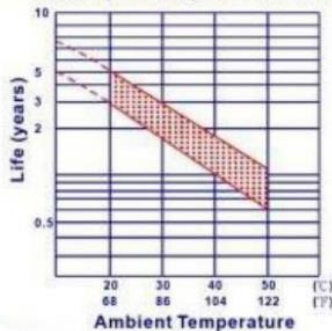
**Effect of Temperature on Capacity 25°C(77°F)**



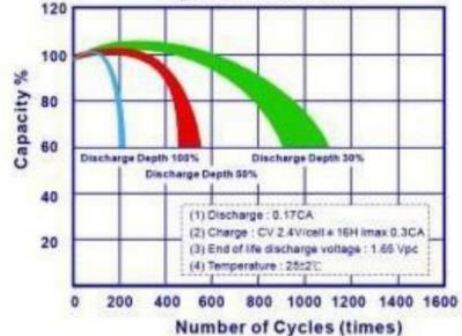
**Capacity Retention Characteristic**



**Trickle (or float) Service Life**



**Cycle Service Life**







# ویرا انرژی مهر ماهان

VIRA ENERGY MEHR MAHAN Co.

UPS - Stabilizer - Battery



## Viracell 18A-12

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hour rate	(0.9A	to	10.50V)	18Ah
10 hour rate	(1.71A	to	10.50V)	17.1Ah
5 hour rate	(3.06A	to	10.20V)	15.3Ah
1 C	(18A	to	9.60V)	11.4Ah
3 C	(54A	to	9.60V)	7.2Ah

Weight Approx. 5.6kg(12.32Lbs.)

Internal Resistance (at 1KHz) Approx. 10.5 mΩ

Maximum Discharge Current for 5 seconds: 270A

#### Charging Methods at 25°C(77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 5.4A

Standby use:

Float Charging Voltage 13.5 to 13.8V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C(5°F) to 40°C(104°F)

Discharge -15°C(5°F) to 50°C(122°F)

Storage -15°C(5°F) to 40°C(104°F)

#### Charge Retention (shelf life) at 20°C(68°F)

1 month 92%

3 month 90%

6 month 80%

Case Material ABS UL94 HB

Terminal F6

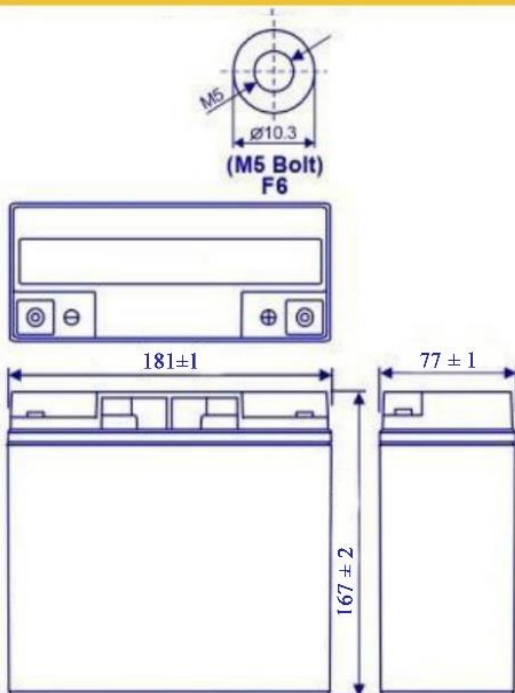
Description of torque value of hard ware for the terminals:

Recommended torque value M5: 5 N-m (51kgf-cm)

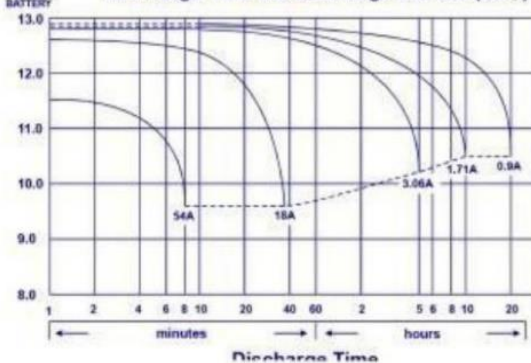
Maximum allowable torque value M5: 6 N-m (61kgf-cm)

### Dimensions

mm(inch)



Discharge Time VS. Discharge Current (25°C)



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**PERFORMANCE DATA**

**Discharge Rates in watts to various End Voltages at 25°C(77°F)**

Time	End Voltage	1.85V	1,80V	1,75V	1.70V	1,67V	1.65V	1,60Vv
5	min	98.9	116	128	135	137	139	141
10	min	67.0	77.1	84.5	89.1	90.2	91.7	92.9
15	min	57.2	64.5	69.4	72.5	73.3	74.2	75.1
30	min	32.7	35.1	37.7	39.4	39.8	40.3	40.8
60	min	18.8	19.8	20.7	21.3	21.5	21.8	22.2
120	min	11.9	12.4	12.7	13.1	13.2	13.3	13.5
180	min	8.75	9.10	9.33	9.53	9.60	9.68	9.78
240	min	6.63	6.93	7.12	7.27	7.32	7.38	7.46
300	min	5.82	6.05	6.17	6.27	6.30	6.35	6.41
600	min	3.40	3.52	3.60	3.67	3.68	3.72	3.75
1200	min	1.77	1.83	1.88	1.92	1.93	1.95	1.96

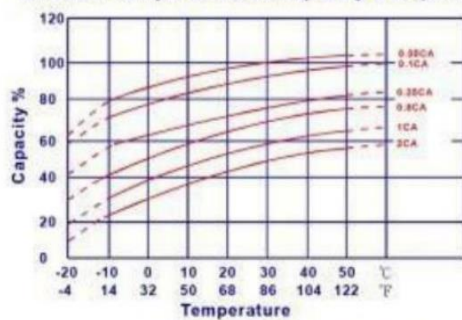
**-Discharge Rates in Amperes to Various End Voltages at 25°C(77°F)**

Time	End Voltage	1.85V	1,80V	1,75V	1.70V	1,67V	1.65V	1,60Vv
5	min	62.6	68.3	71.9	75.1	76.4	77.8	80.2
10	min	38.6	41.8	44.3	46.5	47.4	48.4	50.1
15	min	31.9	34.6	36.3	37.7	38.2	38.8	39.7
30	min	17.4	18.7	19.8	20.7	21.0	21.4	21.9
60	min	9.74	10.3	10.7	11.0	11.1	11.3	11.5
120	min	5.98	6.23	6.39	6.53	6.58	6.64	6.72
180	min	4.35	4.52	4.64	4.73	4.76	4.80	4.85
240	min	3.43	3.52	3.58	3.62	3.63	3.65	3.68
300	min	2.96	3.02	3.07	3.11	3.12	3.14	3.16
600	min	1.73	1.77	1.80	1.82	1.83	1.84	1.85
1200	min	0.893	0.914	0.931	0.946	0.952	0.959	0.962

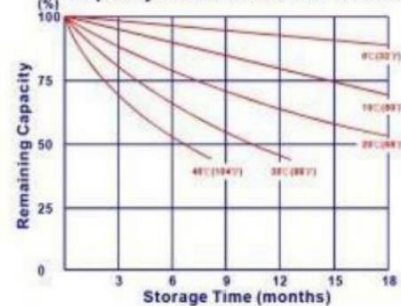
All data on the spec. sheet is an average value:

The tolerance range : X<6min(+15%~-15%), 6min ≤ X<10min(+12%~-12%), 10min ≤ X < 60min(+8%~-8%), X ≥ 60min(+5%~-5%)

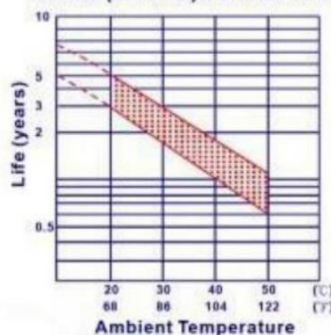
**Effect of Temperature on Capacity 25°C(77°F)**



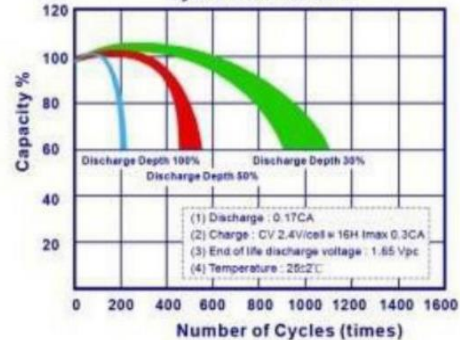
**Capacity Retention Characteristic**



**Trickle (or float) Service Life**



**Cycle Service Life**







# ویرا انرژی مهر ماهان

## VIRA ENERGY MEHR MAHAN Co.

### UPS - Stabilizer - Battery



## Viracell 42A-12

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hour rate	(2.1A	to	10.50V)	42Ah
10 hour rate	(3.99A	to	10.50V)	39.9Ah
5 hour rate	(7.14A	to	10.20V)	35.7Ah
1 C	(42A	to	9.60V)	23.8Ah
3 C	(126A	to	9.60V)	16.8Ah

Weight Approx. 13.4kg(29.5Lbs.)

Internal Resistance (at 1KHz) Approx. 7.5 mΩ

Maximum Discharge Current for 5 seconds: 630A

#### Charging Methods at 25°C (77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 12.6A

Standby use:

Float Charging Voltage 13.5 to 13.8V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C (5°F) to 40°C (104°F)

Discharge -15°C (5°F) to 50°C (122°F)

Storage -15°C (5°F) to 40°C (104°F)

#### Charge Retention (shelf life) at 20°C (68°F)

1 month 92%

3 month 90%

6 month 80%

Case Material ABS UL94 HB

Terminal F8

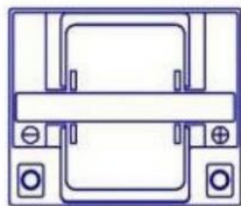
Description of torque value of hard ware for the terminals:

Recommended torque value M6: 7 N-m (71kgf-cm)

Maximum allowable torque value M6: 9 N-m (92kgf-cm)

### Dimensions

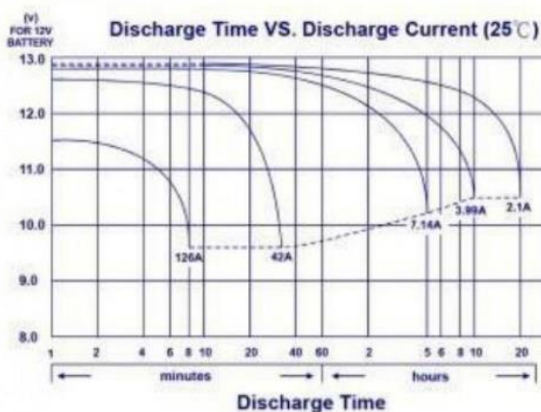
mm(inch)



199 ± 3

166 ± 3

171 ± 3



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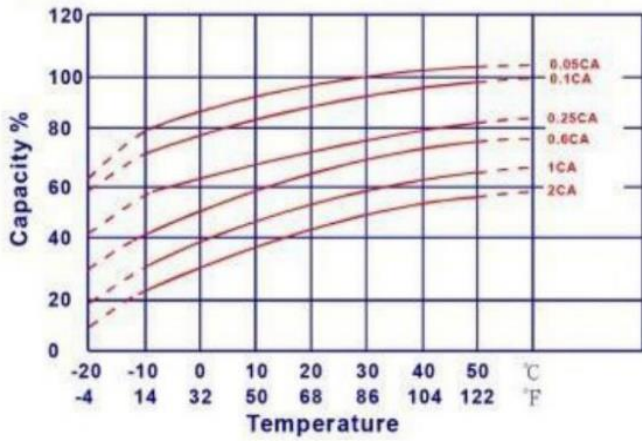
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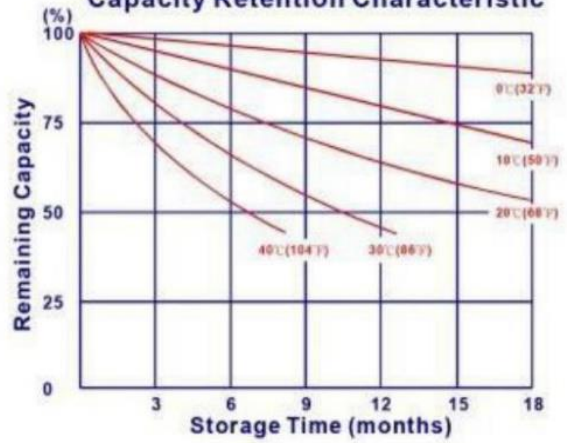
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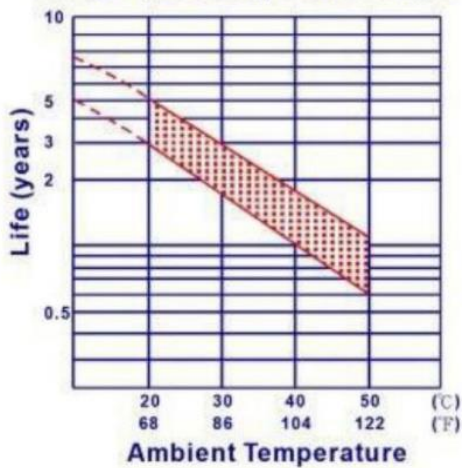
**Effect of Temperature on Capacity 25°C (77°F)**



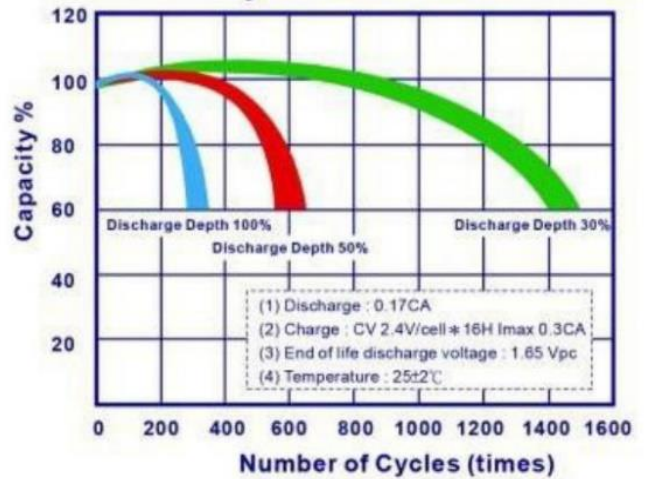
**Capacity Retention Characteristic**



**Trickle (or float) Service Life**



**Cycle Service Life**







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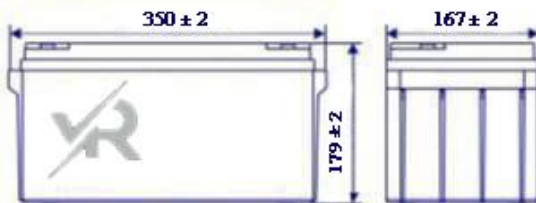
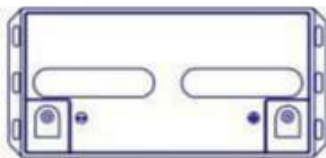
## VIRA ENERGY MEHR MAHAN Co.

### UPS - Stabilizer - Battery

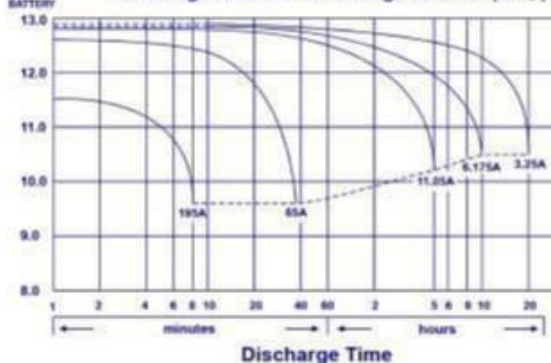


## Dimensions

mm(inch)



(V) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



## Viracell 65A-12

### Specifications

Nominal Voltage(V) 12V

#### Nominal Capacity

20 hour rate	(3.25A to 10.50V)	65Ah
10 hour rate	(6.175A to 10.50V)	61.75Ah
5 hour rate	(11.05A to 10.20V)	55.25Ah
1 C	(65A to 9.60V)	41.17Ah
3 C	(195A to 9.60V)	26Ah

Weight Approx. 20.9kg(45.98Lbs.)

Internal Resistance (at 1KHz) Approx. 7 mΩ

Maximum Discharge Current for 5 seconds: 780A

#### Charging Methods at 25°C(77°F)

Cycle use:

Charging Voltage 14.4 to 15.0V

Coefficient -5.0mV/°C/cell

Maximum Charging Current : 19.5A

Standby use:

Float Charging Voltage 13.5 to 13.8V

Coefficient -3.0mV/°C/cell

#### Operating Temperature Range

Charge -15°C(5°F) to 40°C(104°F)

Discharge -15°C(5°F) to 50°C(122°F)

Storage -15°C(5°F) to 40°C(104°F)

#### Charge Retention (shelf life) at 20°C(68°F)

1 month 98%

3 month 94%

6 month 85%

Case Material ABS UL94 HB

Terminal F8

Description of torque value of hard ware for the terminals:

Recommended torque value M6: 7 N-m (71kgf-cm)

Maximum allowable torque value M6: 9 N-m (92kgf-cm)

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## PERFORMANCE DATA

### Discharge Rates in watts to various End Voltages at 25°C(77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	249	275	320	371	380	396	432
10	min	203	230	251	274	282	290	309
15	min	170	190	207	215	218	224	231
20	min	150	158	171	173	180	185	193
30	min	113	124	134	138	141	143	148
60	min	72.5	76.5	82.3	83.7	84.0	84.3	85.0
90	min	58.3	60.2	61.5	62.0	62.3	62.5	62.8
120	min	45.7	48.0	49.0	49.5	49.7	49.8	50.0
180	min	32.4	33.5	34.0	34.3	34.5	34.7	35.0
240	min	26.0	27.2	27.5	27.7	27.8	28.0	28.2
300	min	21.7	22.6	23.1	23.2	23.3	23.4	23.4
480	min	14.9	15.5	15.8	15.9	16.0	16.0	16.0
600	min	12.5	12.9	13.2	13.2	13.3	13.3	13.3
1200	min	6.54	6.76	6.86	6.87	6.89	6.91	6.94

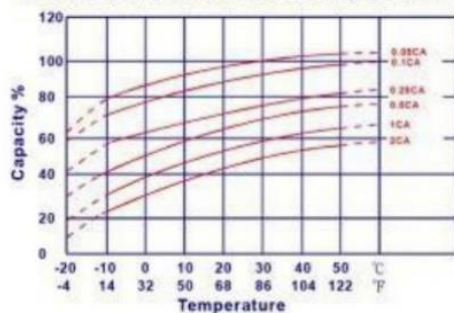
### -Discharge Rates in Amperes to Various End Voltages at 25°C(77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60Vv
5	min	137	151	177	208	213	224	245
10	min	102	123	135	149	154	158	169
15	min	91.0	100	109	116	119	122	129
20	min	61.4	82.5	89.3	92.5	94.0	96.5	101
30	min	50.7	63.6	68.5	71.5	73.4	74.7	77.2
60	min	36.6	38.5	41.5	42.5	43.0	43.6	44.2
90	min	29.5	31.1	31.8	32.2	32.8	33.0	33.4
120	min	23.1	24.3	24.8	25.0	25.3	25.5	25.8
180	min	16.2	17.0	17.3	17.5	17.7	17.8	18.0
240	min	13.0	13.6	13.8	13.9	14.0	14.1	14.2
300	min	10.8	11.3	11.5	11.6	11.7	11.8	11.9
480	min	7.43	7.73	7.87	7.92	7.94	7.96	7.98
600	min	6.19	6.43	6.54	6.58	6.60	6.61	6.63
1200	min	3.24	3.35	3.40	3.41	3.42	3.43	3.44

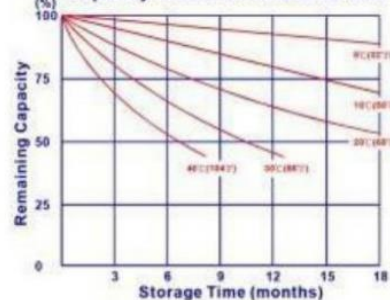
All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$ (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$ (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$ (+8%~-8%),  $X \geq 60\text{min}$ (+5%~-5%)

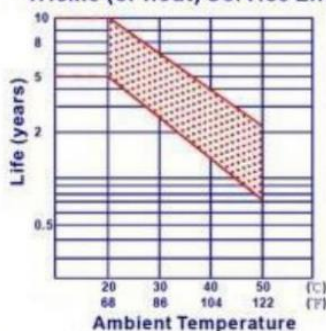
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life

