

# DC12-40 (12V40Ah)



## Specification

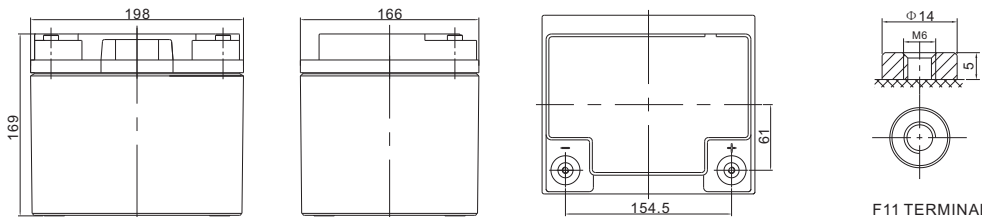
Cells Per Unit	6
Voltage Per Unit	12
Capacity	40Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 13.0 Kg (Tolerance ±3%)
Internal Resistance	Approx. 8 mΩ
Terminal	F11 (M6)/F4 (M6)
Max. Discharge Current	400A (5 sec)
Design Life	12 years (floating charge)
Maximum Charging Current	12.0 A
Reference Capacity	C3 31.3AH C5 35.2AH C10 40.0AH C20 42.0AH
Float Charging Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ±5°C
Self Discharge	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



DC (Deep Cycle) series batteries provide superior high integrity and reliability. It is specially designed for frequent cyclic charge and discharge. By using strong grids, thick plate and specially active material are designed for repeated deep-discharge applications. The DC series batteries offers 30% more cyclic life than the standby series. It is suitable for solar and wind renewable energy storage, mobility and medical equipment, RV, telecom, broadband and cable TV, UPS systems etc.



## Dimensions



Length	198±1mm (7.80 inches)
Width	166±1mm (6.54 inches)
Height	169±1mm (6.65 inches)
Total Height	169±1mm (6.65 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Constant Current Discharge Characteristics : A(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	140.2	103.2	76.99	44.17	25.52	14.94	11.12	8.81	7.43	5.07	4.29	2.19
1.65V	135.0	99.72	74.68	43.24	25.04	14.69	10.95	8.69	7.33	5.01	4.25	2.17
1.70V	128.3	95.23	71.66	42.01	24.40	14.35	10.73	8.53	7.21	4.94	4.19	2.14
1.75V	119.3	89.23	67.59	40.35	23.53	13.89	10.42	8.31	7.04	4.83	4.11	2.10
1.80V	107.4	81.20	62.12	38.06	22.33	13.25	9.99	8.00	6.81	4.69	4.00	2.05
1.85V	91.27	70.24	54.57	34.82	20.62	12.34	9.37	7.55	6.46	4.47	3.84	1.98

### Constant Power Discharge Characteristics : WPC(25°C)

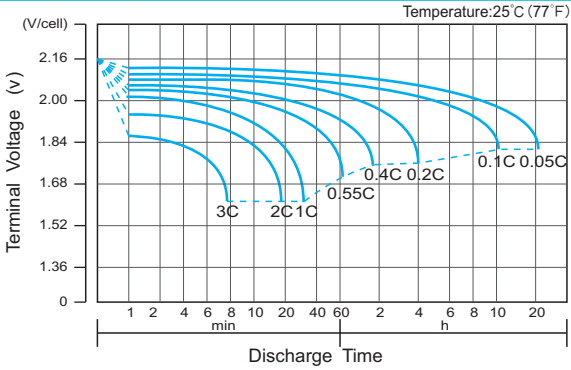
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	238	175	135	80.2	47.7	28.3	21.2	16.9	14.3	9.90	8.44	4.31
1.65V	235	174	133	79.7	47.3	28.0	21.1	16.8	14.2	9.82	8.37	4.28
1.70V	226	168	129	77.9	46.3	27.5	20.7	16.5	14.0	9.68	8.26	4.23
1.75V	214	160	123	75.6	44.8	26.7	20.2	16.1	13.7	9.50	8.12	4.16
1.80V	196	148	115	72.0	42.8	25.6	19.4	15.6	13.3	9.23	7.91	4.06
1.85V	169	131	103	66.5	39.8	24.0	18.3	14.8	12.7	8.83	7.60	3.92

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

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## Discharge Characteristics Curve



## Charge Characteristic Curve for Cycle Use(IU)



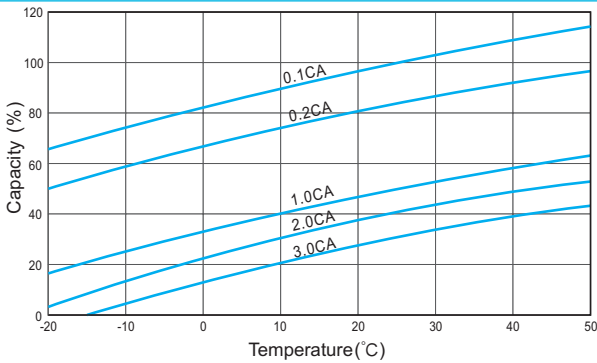
## Cycle Life in Relation to Depth of Discharge



## Relationship Between Charging Voltage and Temperature



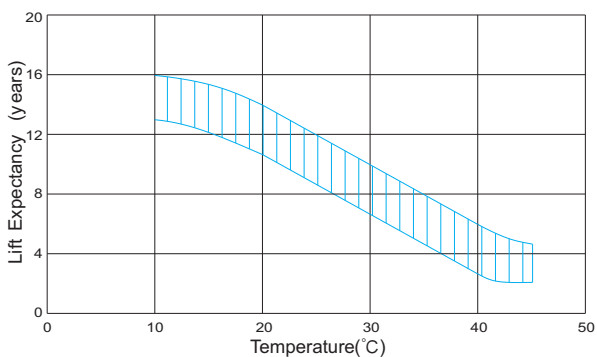
## Temperature Effects on Capacity



## Storage Characteristics



## Effect of Temperature on Long Term Life



## Relationship of OCV And State of Charge(20°C)

