Intepower Canada Ltd.

SOLAR12-90 12V90Ah

General Application

The Solar Series is highly suited for cyclic applications such as Wheelchair, Solar, Marine or Wind Turbine power systems applications.
By combining the newly developed Gel Electrolyte with high density paste, VCELL created an innovative range of Solar Batteries. The range offers high recharge efficiency at very low charge current.
The acid Stratification is highly depressed by adding of Gel.

Specification

NOMINAL VOLTAGE(V)	: 12
CAPACITY(25°C)	: 90 Ah@20HR-rate (4.5A, 1.80V) : 83.7Ah@10HR-rate (8.37A, 1.75V) : 72.0Ah@5HR-rate (14.4A, 1.75V) : 62.5Ah@3HR-rate (20.8A, 1.75V) : 49.5Ah@1HR-rate (49.5A, 1.67V)
DIMENSIONS	
TOTAL HEIGHT	: 213 mm (8.38 inches)
CONTAINER HEIGHT	: 207 mm (8.15 inches)
LENGTH	: 305 mm (12.01 inches)
WIDTH	: 168 mm (6.61 inches)
WEIGHT	: APPROX 26.7 Kg (59.8lbs)
CONTAINER MATERIAL	: ABS
INTERNAL RESISTANCE(25°C)	: Approx.0.006 Ω
MAX. DISCHARGE CURRENT: 900A(5S)	
CAPACITY AFFECTED BY TEMP.	
40°C	: ~103%
25°C	: ~100%
0 °C	: ~86%

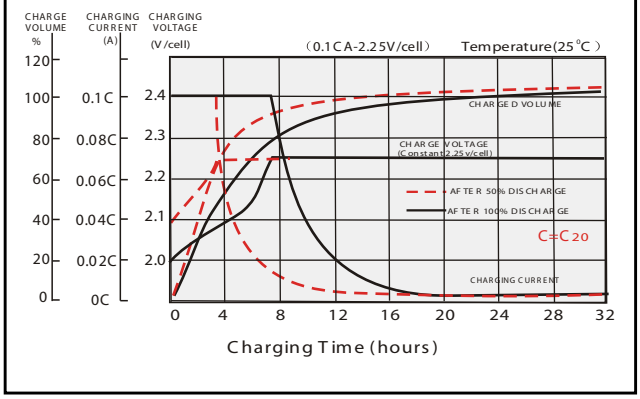
Characteristics

- CYCLE USE CHARGE VOLTAGE(25 °C)
  : 14.4~15.0V
  (-30mV/ °C), initial charging current less than 21.25A
- STANDBY USE CHARGE VOLTAGE(25°C) : 13.5~13.8V
  (-20mV/ °C)
- SELF DISCHARGE: Solar series batteries may be stored for up to 9 months at 25°C and then a freshening charge is required. For higher temperature the time interval will be shorter.

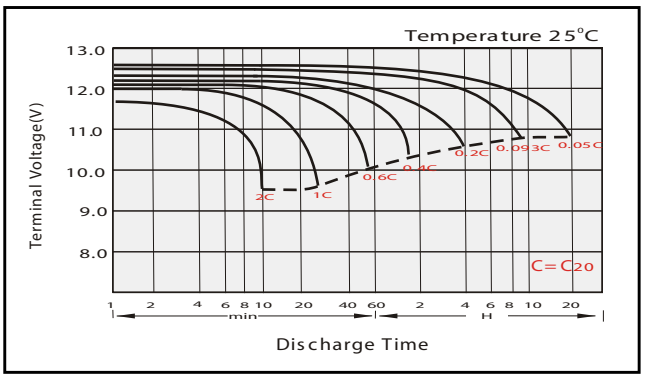
Operating Temperature

- Operating Temp. Range
  - Discharge : -20~55°C
  - Charge : 0~40°C
  - Storage : -20~50°C
- Nominal Operating Temp. Range : 25±3°C

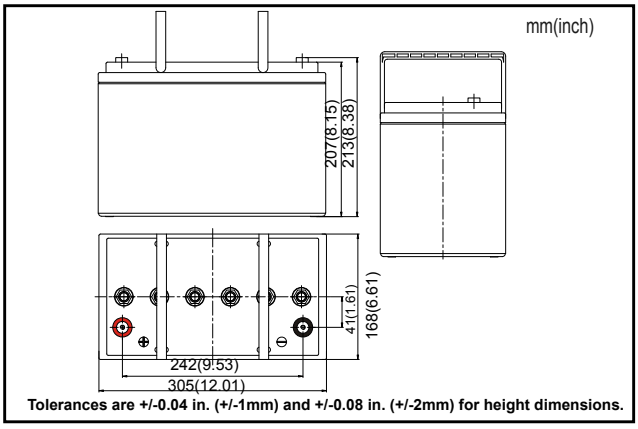
Float Charging Characteristic



Discharge Characteristics

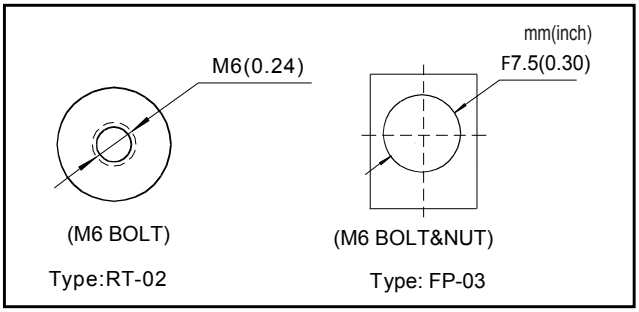


Dimensions

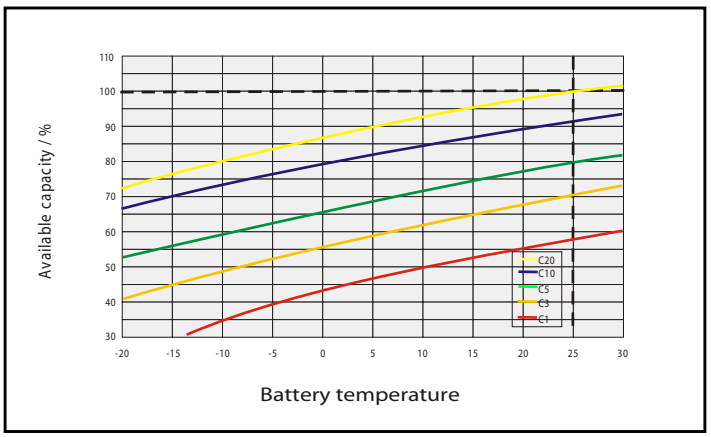


Tolerances are +/-0.04 in. (+/-1mm) and +/-0.08 in. (+/-2mm) for height dimensions.

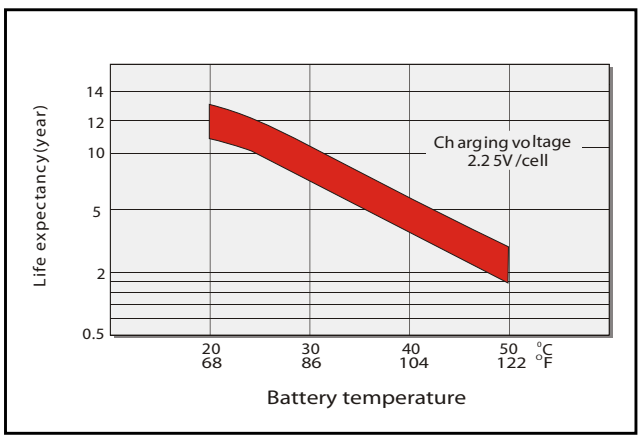
Terminal



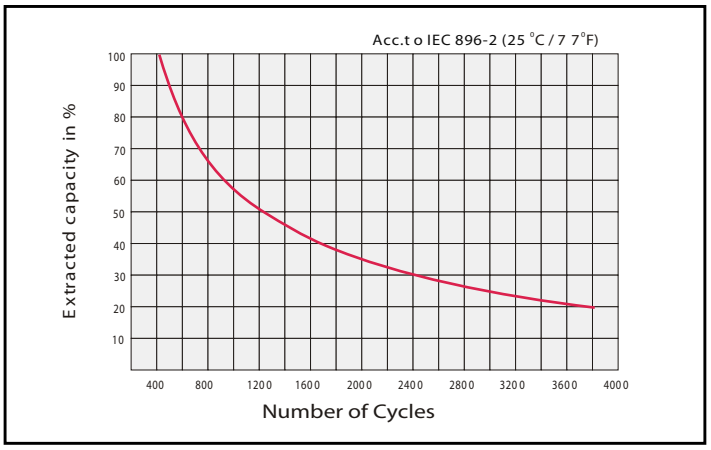
Temperature vs Battery capacity



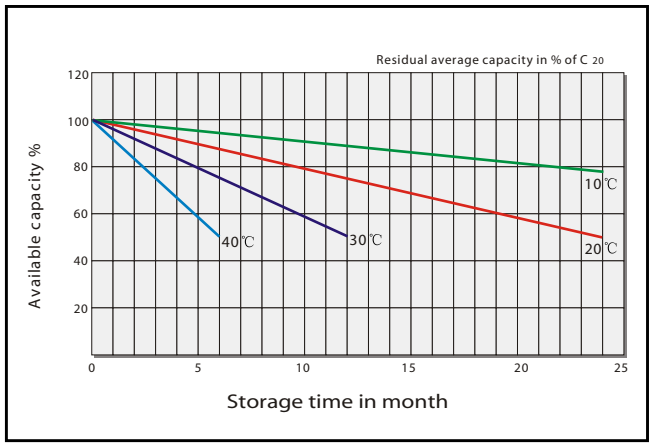
Temperature vs Float life



Depth of Discharge VS Cycle Life @25 ℃



Capacity vs Storage Time



Constant Current Discharge (Amperes) @ 25 °C(77 °F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	76.11	59.79	45.64	38.19	24.17	18.51	15.30	13.24	11.39	10.08	9.09	8.31	7.86	4.32
1.80V/cell	87.17	66.73	50.27	42.17	26.23	19.80	16.20	13.89	11.96	10.56	9.53	8.74	8.20	4.50
1.75V/cell	97.97	73.41	54.39	45.13	27.77	20.83	16.97	14.40	12.38	10.93	9.84	9.00	8.37	4.59
1.70V/cell	105.56	78.69	57.73	47.70	29.44	21.73	17.49	14.91	12.81	11.29	10.13	9.24	8.56	4.65
1.67V/cell	109.93	81.77	59.79	49.50	30.21	22.50	18.00	15.17	12.99	11.46	10.29	9.36	8.67	4.69
1.60V/cell	119.06	87.43	64.16	52.59	31.37	23.40	18.64	15.69	13.37	11.70	10.47	9.57	8.83	4.76

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

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	145.67	115.20	88.46	74.31	47.31	36.13	30.09	26.10	22.50	20.06	18.13	16.59	15.69	8.63
1.80V/cell	164.70	127.54	96.81	81.64	50.91	38.57	31.76	27.26	23.66	20.83	18.90	17.36	16.33	8.97
1.75V/cell	183.09	138.86	103.89	86.91	53.87	40.63	33.17	28.29	24.43	21.60	19.41	17.87	16.59	9.14
1.70V/cell	195.04	147.47	109.54	91.41	56.83	42.30	34.20	29.06	25.20	22.24	20.06	18.39	16.97	9.24
1.67V/cell	200.83	151.59	112.63	94.24	57.99	43.46	34.84	29.57	25.46	22.50	20.31	18.51	17.23	9.32
1.60V/cell	215.10	160.84	120.09	99.64	60.04	44.87	36.13	30.34	25.97	22.89	20.57	18.90	17.49	9.45