



## S20-1

20 Ah | 12 V | 20 h

### Specifications

Voltage	12 V
Nominal Capacity	20 Ah @ 20 hour-rate
Number of Cells	6
Internal Resistance	Approx. 14 mΩ
Design Life	6 to 8 years (float charging)
Short Circuit Current	820 A
Self Discharge	Monthly rate < 3% @ 25 °C Recharge after 6 months Charge before using

### Charging & Discharging

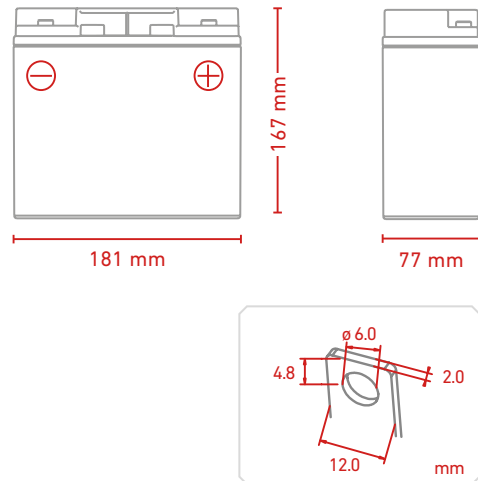
Max. Charging Current	5.9 A
Max. Discharge Current	200 A (5 sec)
Standby Use Voltage	13.7 V to 13.9 V @ 25 °C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V to 14.8 V @ 25 °C Temperature Compensation: -4mV/°C/Cell
Reference Capacity	C3 15.5 Ah C5 17.4 Ah C10 18.7 Ah C20 20.0 Ah

### Temperature Ranges

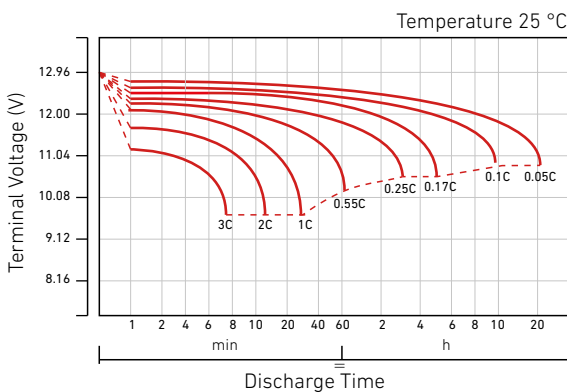
Normal Operation	25 °C ± 5 °C
Discharging	-20 °C to 60 °C
Charging	0 °C to 50 °C
Storage	-20 °C to 60 °C

### Mechanical Specifications

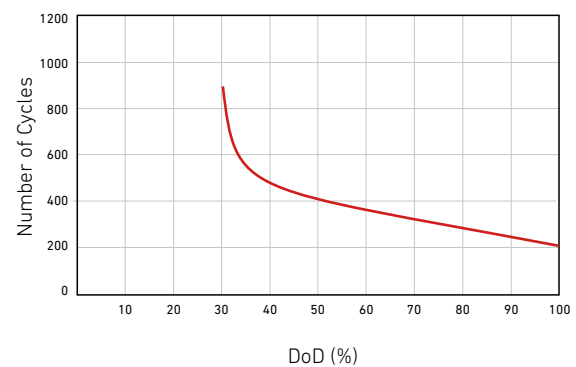
Measurements (L x W x H)	181 x 77 x 167 mm
Weight	Approx. 5.40 kg
Terminals	F4 terminal (∅ 6mm)
Case material	A.B.S. UL94-HB, UL94-V0 Optional



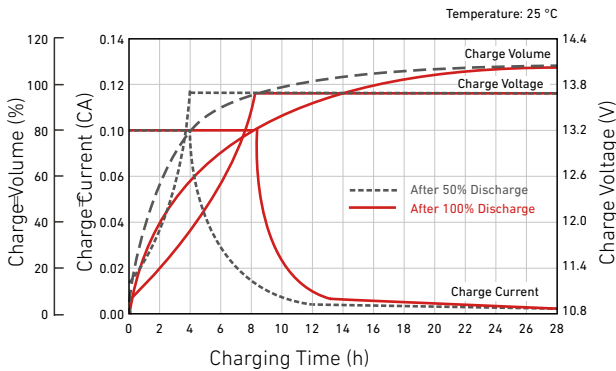
### Discharge Characteristics Curve



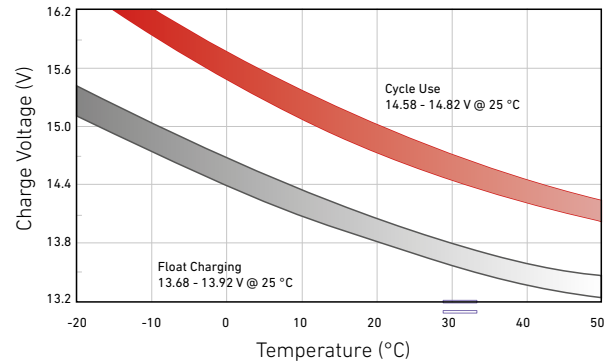
### Cycle Life in Relation to Depth of Discharge



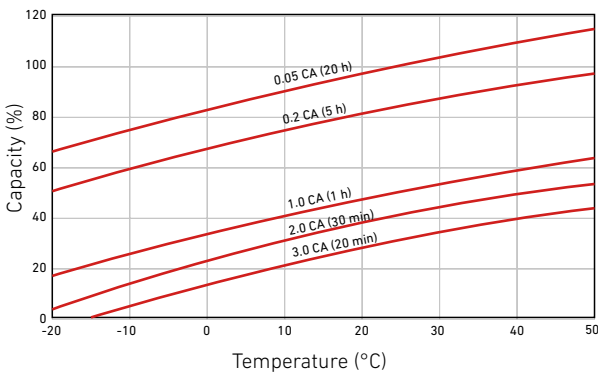
**Discharge Characteristics Curve For Standby Use**



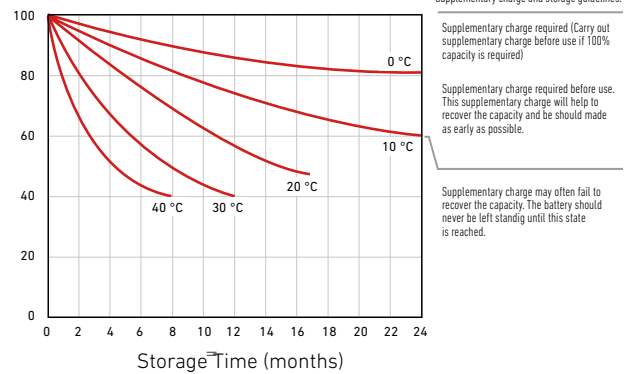
**Relationship Between Charging Voltage and Temperature**



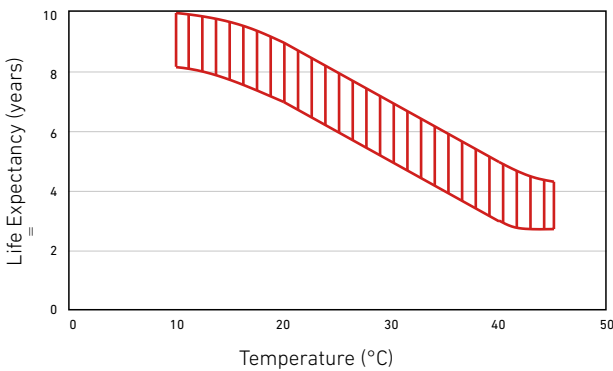
**Temperature Effects on Capacity**



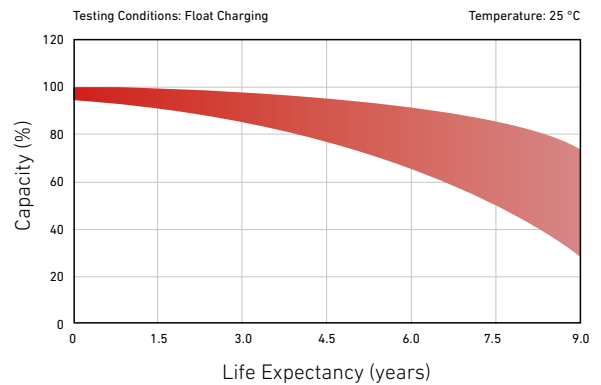
**Storage Characteristics**



**Effect of Temperature on Long-Term Life**



**Life Characteristics of Standby Use**



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

F.V	Time											
	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V	79,30	51,72	38,15	22,08	12,76	7,527	5,472	4,357	3,678	2,458	2,002	1,041
1.65 V	76,43	50,17	37,15	21,59	12,52	7,417	5,399	4,303	3,636	2,433	1,983	1,033
1.70 V	72,70	48,15	35,84	20,95	12,21	7,270	5,302	4,231	3,579	2,400	1,957	1,022
1.75 V	67,92	45,54	34,13	20,11	11,80	7,076	5,174	4,135	3,504	2,356	1,924	1,007
1.80 V	61,88	42,19	31,93	19,03	11,26	6,822	5,004	4,009	3,405	2,298	1,879	0,987
1.85 V	54,45	38,01	29,15	17,64	10,57	6,490	4,783	3,844	3,274	2,221	1,820	0,961

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

F.V	Time											
	5 min	10 min	15 min	30 min	1 h	2 h	3 h	4 h	5 h	8 h	10 h	20 h
1.60 V	136,5	89,22	67,70	40,70	24,21	14,48	10,61	8,49	7,20	4,87	3,99	2,08
1.65 V	135,0	88,86	67,31	40,40	24,01	14,37	10,53	8,43	7,15	4,84	3,96	2,07
1.70 V	129,9	86,23	65,50	39,43	23,50	14,13	10,37	8,31	7,05	4,78	3,92	2,05
1.75 V	123,5	83,02	63,28	38,24	22,82	13,82	10,16	8,15	6,93	4,70	3,85	2,02
1.80 V	114,5	78,27	60,03	36,53	21,88	13,39	9,87	7,93	6,76	4,59	3,77	1,98
1.85 V	102,6	71,77	55,59	34,20	20,68	12,81	9,47	7,63	6,52	4,45	3,66	1,93