



## S18

18 Ah | 12 V | 20 h

### Specifications

Voltage	12 V
Nominal Capacity	18 Ah @ 20 hour-rate
Number of Cells	6
Internal Resistance	Approx. 16 mΩ
Design Life	6 to 8 years (float charging)
Short Circuit Current	750 A
Self Discharge	Monthly rate < 3% @ 25 °C Recharge after 6 months Charge before using

### Temperature Ranges

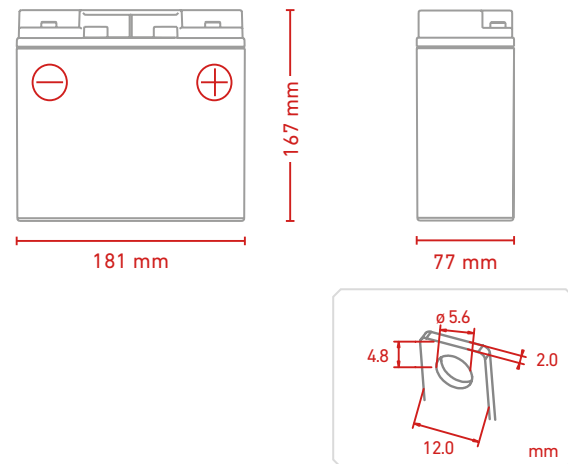
Normal Operation	25 °C ± 5 °C
Discharging	-20 °C to 60 °C
Charging	0 °C to 50 °C
Storage	-20 °C to 60 °C

### Mechanical Specifications

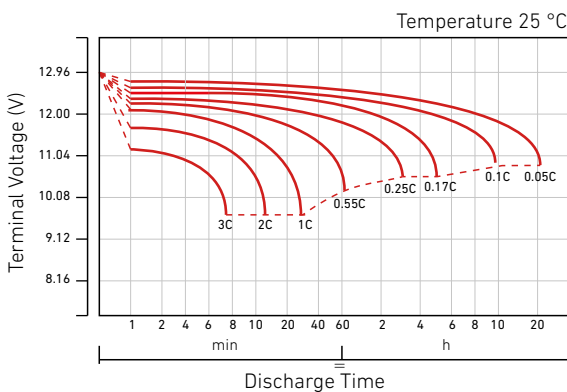
Measurements (L x W x H)	181 x 77 x 167 mm
Weight	Approx. 5.0 kg
Terminals	F3(M5)
Case material	A.B.S. UL94-HB, UL94-V0 Optional

### Charging & Discharging

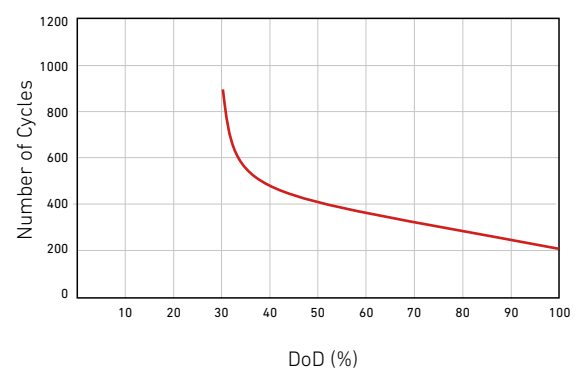
Max. Charging Current	5.4 A
Max. Discharge Current	180 A (5 sec)
Standby Use Voltage	13.7 V to 13.9 V @ 25 °C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V to 14.9 V @ 25 °C Temperature Compensation: -4mV/°C/Cell
Reference Capacity	C3 13.9 Ah C5 15.7 Ah C10 16.8 Ah C20 18.0 Ah



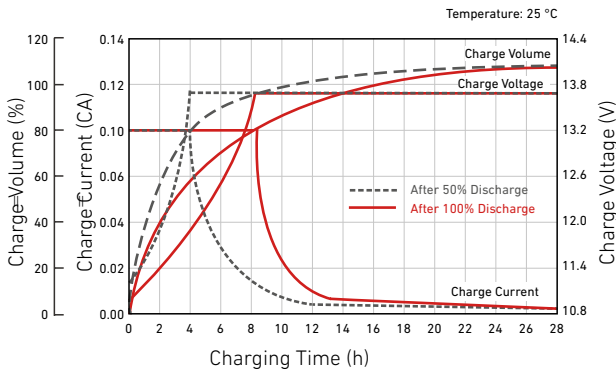
### Discharge Characteristics Curve



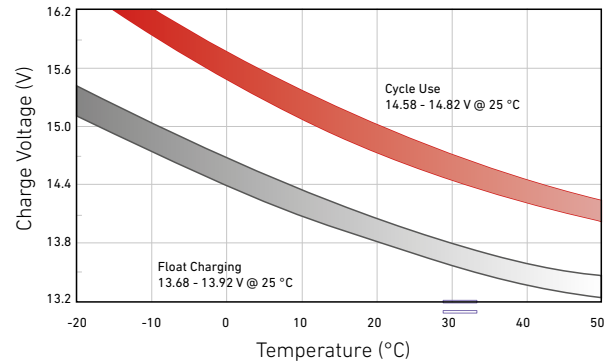
### Cycle Life in Relation to Depth of Discharge



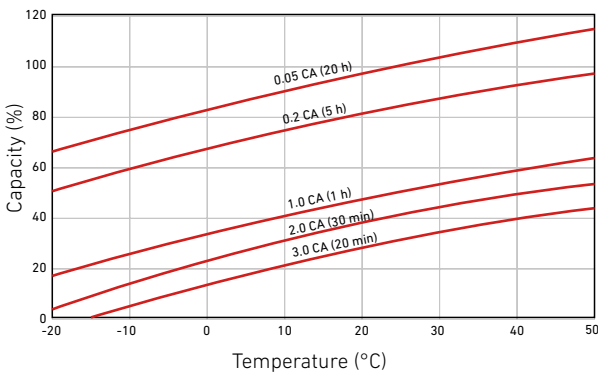
**Discharge Characteristics Curve For Standby Use**



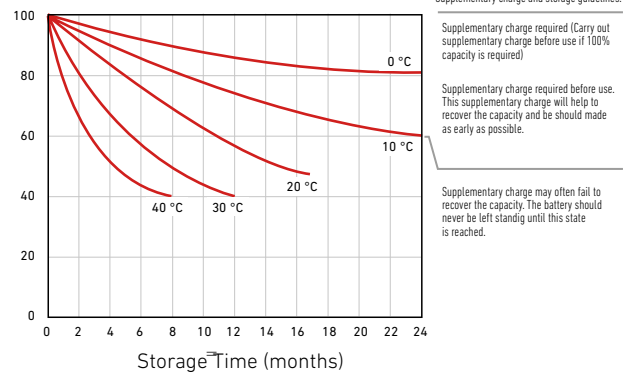
**Relationship Between Charging Voltage and Temperature**



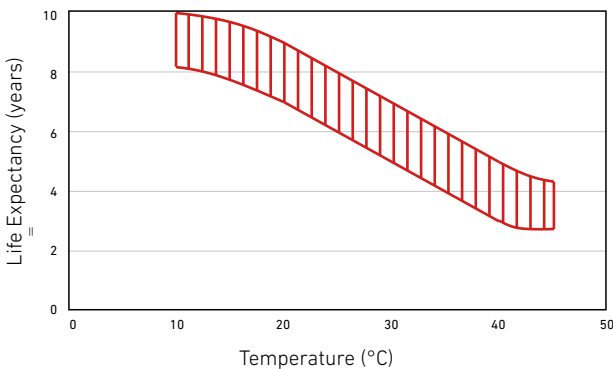
**Temperature Effects on Capacity**



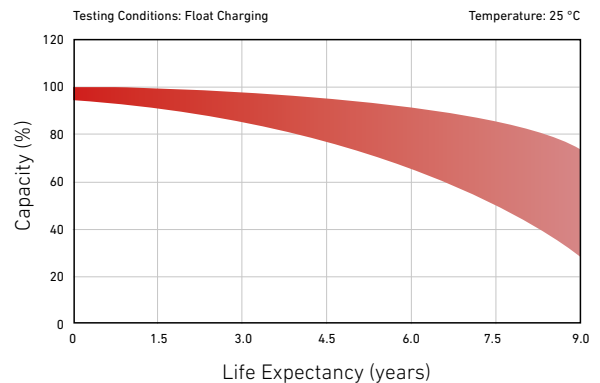
**Storage Characteristics**



**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	71,37	46,54	34,34	19,87	11,48	6,774	4,925	3,921	3,310	2,212	1,802	0,937
1.65 V	68,79	45,16	33,44	19,43	11,27	6,675	4,859	3,873	3,272	2,190	1,785	0,930
1.70 V	65,43	43,34	32,25	18,86	10,99	6,543	4,772	3,808	3,221	2,160	1,762	0,920
1.75 V	61,12	40,98	30,71	18,10	10,62	6,369	4,656	3,722	3,154	2,120	1,731	0,906
1.80 V	55,69	37,97	28,73	17,12	10,13	6,139	4,504	3,608	3,064	2,068	1,691	0,889
1.85 V	49,01	34,21	26,23	15,87	9,510	5,841	4,305	3,460	2,947	1,999	1,638	0,865

**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	122,8	80,30	60,93	36,63	21,79	13,03	9,55	7,64	6,48	4,38	3,59	1,87
1.65 V	121,5	79,97	60,58	36,36	21,61	12,93	9,48	7,59	6,43	4,35	3,57	1,86
1.70 V	116,9	77,61	58,95	35,48	21,15	12,72	9,33	7,48	6,35	4,30	3,52	1,84
1.75 V	111,2	74,72	56,95	34,41	20,54	12,44	9,14	7,34	6,24	4,23	3,47	1,82
1.80 V	103,1	70,44	54,03	32,88	19,69	12,05	8,88	7,14	6,08	4,13	3,39	1,79
1.85 V	92,31	64,59	50,03	30,78	18,61	11,53	8,53	6,87	5,87	4,01	3,29	1,74