



## S70

70 Ah | 12 V | 20 h

### Specifications

|                       |   |
|-----------------------|---|
| Voltage               | 12 V  |
| Nominal Capacity      | 70 Ah @ 20 hour-rate  |
| Number of Cells       | 6   |
| Internal Resistance   | Approx. 7.0 mΩ  |
| Design Life           | 12 years (float charging)   |
| Short Circuit Current | 1500 A  |
| Self Discharge        | Monthly rate < 3% @ 25 °C<br>Recharge after 6 months<br>Charge before using |

### Charging & Discharging

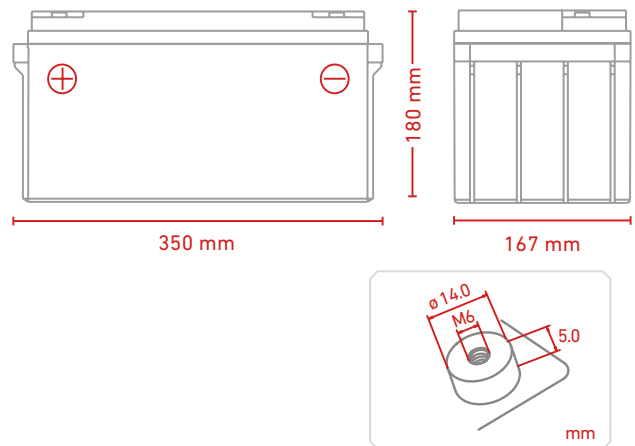
|                        |   |
|------------------------|---|
| Max. Charging Current  | 19.5 A  |
| Max. Discharge Current | 650 A (5 sec)   |
| Standby Use Voltage    | 13.6 V to 13.8 V @ 25 °C<br>Temperature Compensation:<br>-3mV/°C/Cell |
| Cycle Use Voltage      | 14.6 V to 14.8 V @ 25 °C<br>Temperature Compensation:<br>-4mV/°C/Cell |
| Reference Capacity     | C3 50 Ah<br>C5 57 Ah<br>C10 65 Ah<br>C20 70 Ah                        |

### Temperature Ranges

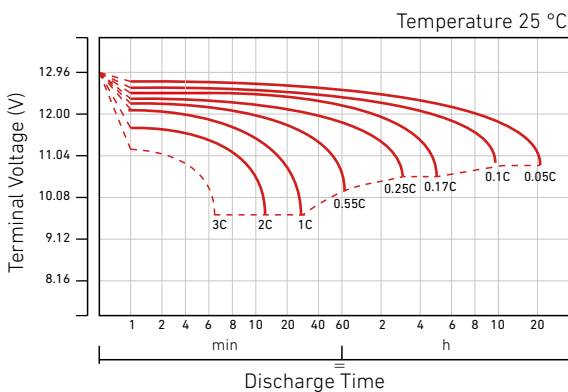
|                  |                 |
|------------------|-----------------|
| Normal Operation | 25 °C ± 5 °C    |
| Discharging      | -20 °C to 60 °C |
| Charging         | 0 °C to 50 °C   |
| Storage          | -20 °C to 60 °C |

### Mechanical Specifications

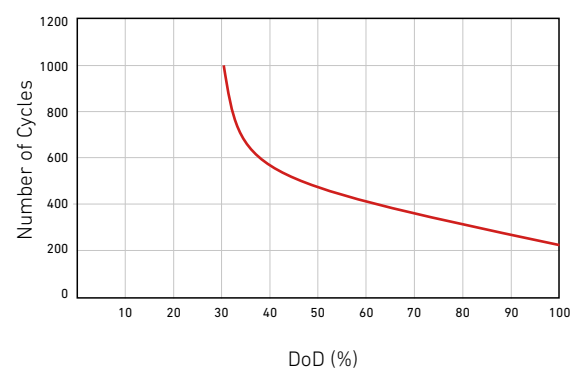
|                          |                                     |
|--------------------------|-------------------------------------|
| Measurements (L x W x H) | 350 x 167 x 180 mm                  |
| Weight                   | Approx. 19.5 kg                     |
| Terminals                | F11 (M6)                            |
| Case material            | A.B.S. UL94-HB,<br>UL94-V0 Optional |



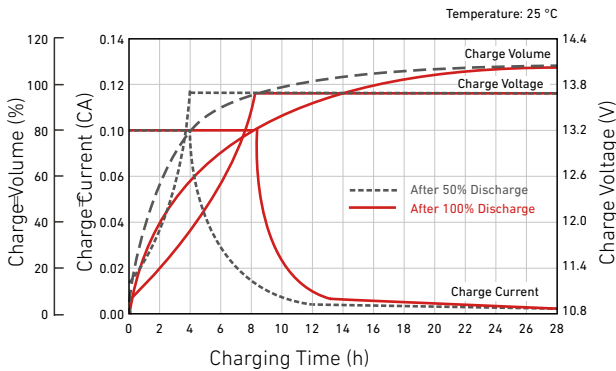
### Discharge Characteristics Curve



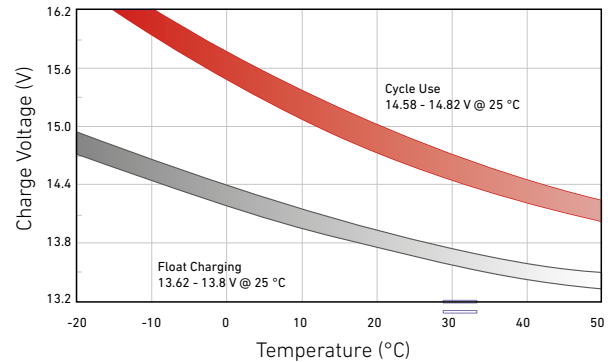
### Cycle Life in Relation to Depth of Discharge



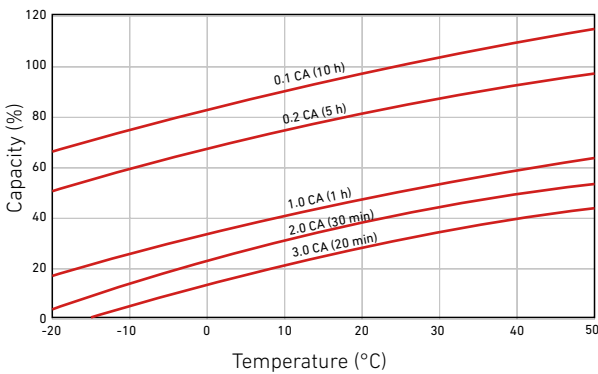
**Discharge Characteristics Curve For Standby Use**



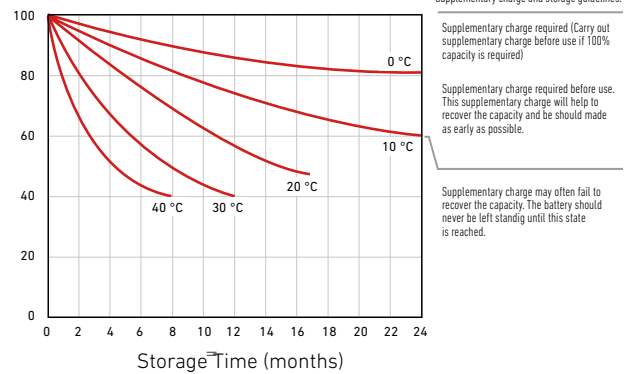
**Relationship Between Charging Voltage and Temperature**



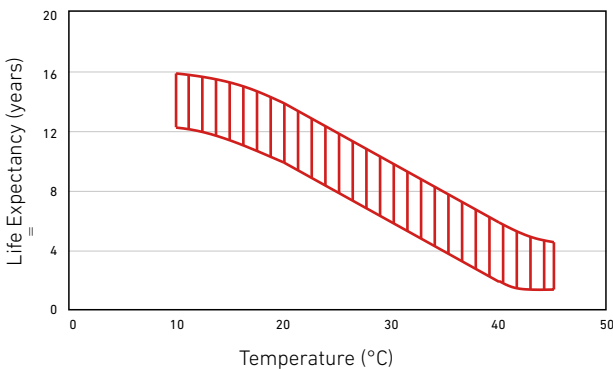
**Temperature Effects on Capacity**



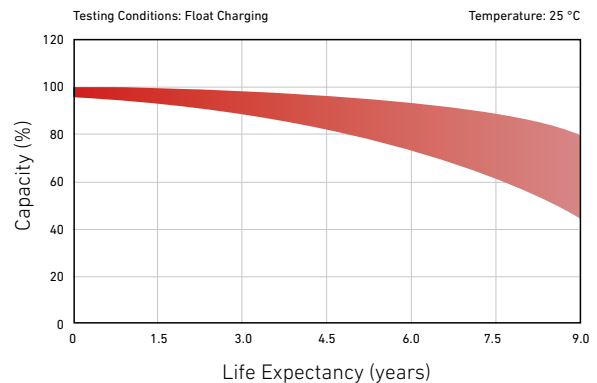
**Storage Characteristics**



**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 | 208,2 | 158,64 | 120,51 | 71,18  | 39,71 | 23,66 | 18,33 | 14,41 | 12,26 | 8,24 | 6,86 | 3,59 |
| 1.65 V | 200,7 | 149,91 | 115,22 | 68,34  | 38,35 | 22,91 | 17,77 | 14,02 | 11,94 | 8,15 | 6,77 | 3,53 |
| 1.70 V | 190,9 | 138,01 | 107,91 | 65,32  | 37,11 | 22,15 | 17,28 | 13,64 | 11,63 | 8,02 | 6,67 | 3,49 |
| 1.75 V | 178,3 | 126,33 | 100,42 | 62,43  | 35,75 | 21,38 | 16,77 | 13,29 | 11,34 | 7,91 | 6,58 | 3,44 |
| 1.80 V | 162,5 | 114,35 | 92,73  | 59,67  | 34,38 | 20,61 | 16,25 | 12,91 | 11,05 | 7,78 | 6,50 | 3,41 |
| 1.85 V | 143,0 | 93,46  | 76,95  | 51,39  | 30,84 | 18,89 | 15,02 | 12,00 | 10,30 | 7,30 | 6,12 | 3,24 |

**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 | 358,4 | 269,7  | 210,68 | 129,29 | 74,63 | 44,85 | 35,02 | 27,66 | 23,64 | 16,10 | 13,48 | 7,06 |
| 1.65 V | 354,6 | 259,7  | 204,41 | 125,42 | 72,49 | 43,63 | 34,08 | 27,01 | 23,11 | 15,95 | 13,33 | 6,96 |
| 1.70 V | 341,1 | 243,5  | 194,31 | 121,09 | 70,57 | 42,42 | 33,30 | 26,38 | 22,59 | 15,74 | 13,15 | 6,89 |
| 1.75 V | 324,4 | 226,9  | 183,45 | 116,92 | 68,40 | 41,13 | 32,44 | 25,80 | 22,10 | 15,55 | 12,99 | 6,81 |
| 1.80 V | 300,7 | 209,0  | 171,79 | 112,88 | 66,16 | 39,86 | 31,56 | 25,15 | 21,60 | 15,32 | 12,84 | 6,75 |
| 1.85 V | 269,3 | 173,8  | 144,57 | 98,19  | 59,71 | 36,72 | 29,31 | 23,47 | 20,21 | 14,42 | 12,11 | 6,42 |