

Temperature Effects On Battery Performance & Life

Different temperatures affect the internal chemical reaction rates, and internal resistance and efficiency of all types of batteries.

Run times will vary as temperatures change:

Batteries are significantly less efficient under heavy discharges at lower temperatures

- ↑ Increasing as the temperature rises above 25°C / 77°F
- ↓ Decreasing as the temperature drops below 25°C / 77°F

Charge times will vary as temperatures change:

Batteries are significantly less efficient when being charged at lower temperatures

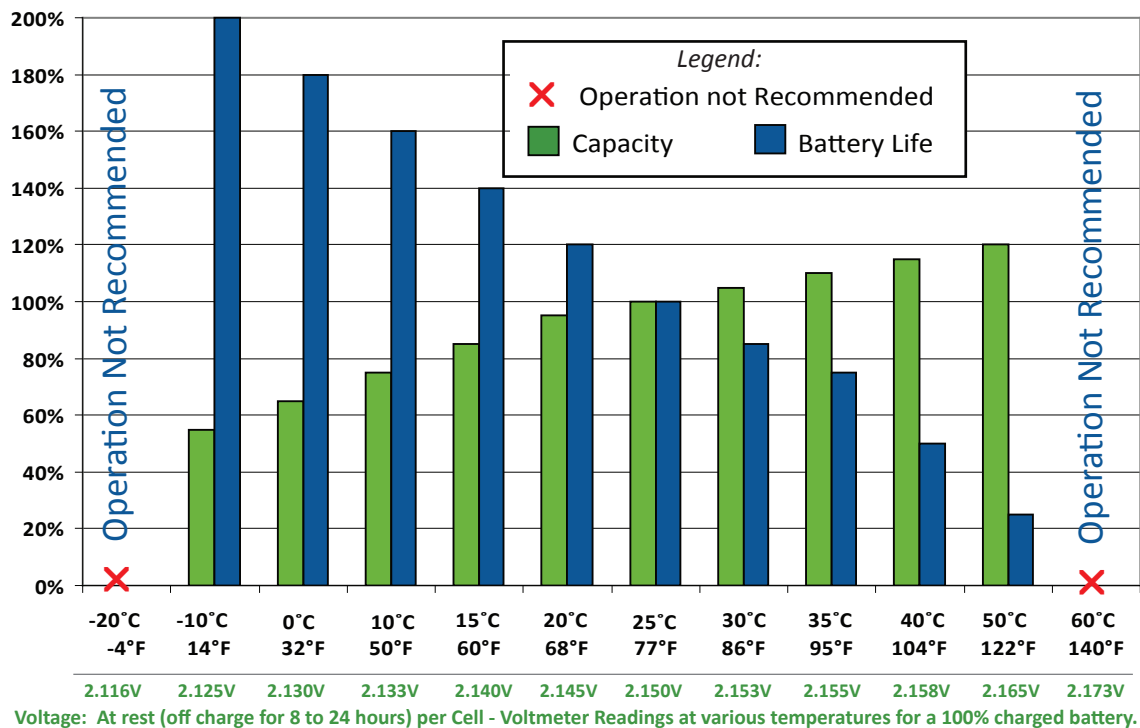
- ↑ Increasing as the temperature drops below 25°C / 77°F
- ↓ Decreasing as the temperature rises above 25°C / 77°F

Battery life will vary when operated at different temperatures:

Continued operation at higher temperatures will shorten battery life.

- ↑ Increasing as the temperature drops below 25°C / 77°F
- ↓ Decreasing as the temperature rises above 25°C / 77°F

Battery Capacity & Battery Life Compared at Different Temperatures



Definitions and things to know:

Data provided as representative only. Battery voltage, capacity and life will vary with actual environmental conditions and operator driving habits. Operation above 50°C / 122°F and below -10°C / 14°F is not recommended. **Temperature:** C: Celsius, F: Fahrenheit. **Capacity:** Operation or available "run time" as a % of base-line capacity established using industry standard testing at 25°C / 77°F. **Battery Life:** Expected battery life as a % of base line life established using industry standard testing at 25°C / 77°F. **Voltage:** For Discover® Batteries, multiply the voltages shown by 3 for 6-volt batteries, by 4 for 8-volt batteries and by 6 for 12-volt batteries.