**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:

Voltage: At rest (off charge for 8 to 24 hours) per cell - Voltmeter readings at various temperatures a 100% charged battery.

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.

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