

LITHIUM IRON BATTERY WITH MANAGEMENT SYSTEM

for Renewable Energy & Backup Power Applications



SAFEST LITHIUM CHEMISTRY

The Iron Edison Lithium Iron Phosphate (LiFePO₄) battery is the most chemically stable and safest lithium battery type for home or commercial use.

ACTIVE CELL MANAGEMENT

An on-board Battery Management System (BMS) is standard with every system, actively managing each battery cell and balancing the entire pack. The BMS controls a military-grade contactor, which will disconnect the battery circuit if a critical fault is reached.

HIGH ENERGY DENSITY

Lithium batteries pack more energy density than other battery types, which makes for a smaller battery footprint and expanded installation options.

EFFICIENT & LONG-LASTING

Lithium Iron is 95% efficient in charging, leading to a smaller, more economical charging source. With up to 7,000 cycles (see chart below), your investment will continue to produce for years to come.

AMERICAN BUILT

Designed and assembled in Colorado using high-quality components, every Iron Edison Lithium Iron battery is built to last for decades.

INDUSTRYLEADING WARRANTY

Every Lithium Iron battery comes with a 7-year performance guarantee, along with lifetime technical support. Recommended charge settings are also provided for every application.

FULLY COMPATIBLE

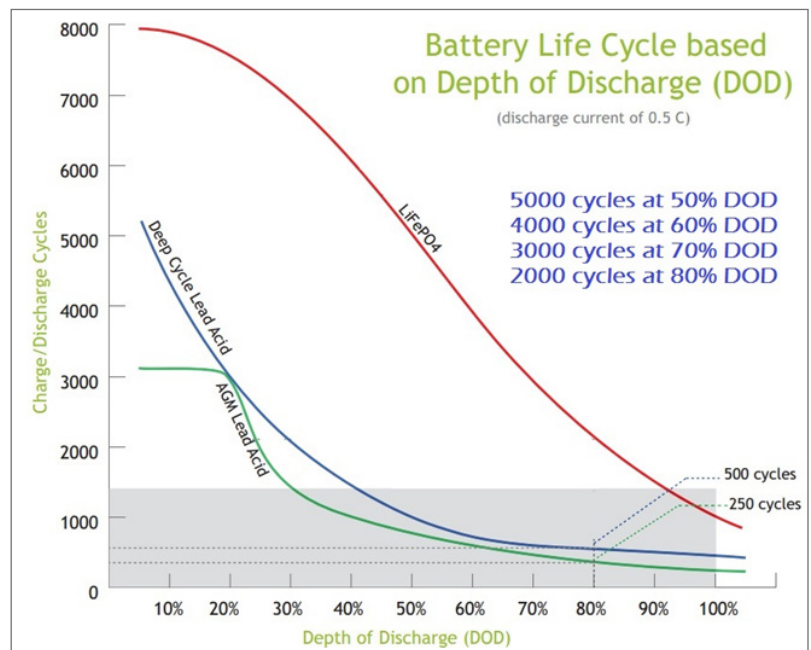
Iron Edison batteries are available in 12V, 24V and 48V, making them compatible with major manufacturers like Outback Power, Schneider Electric, SMA, Magnum Energy, and MidNite Solar.



DESIGNED & ASSEMBLED IN



U. S. A.



BATTERY OPTIONS & DATA

12V BATTERY (13V Actual, 4 x 3.25V Lithium Iron cells in series)

CAPACITY Amp-hours (Ah) 5-Hr Rate	TOTAL ENERGY Kilowatt-hours (kWh)	USABLE ENERGY Kilowatt-hours (kWh)		ENCLOSURE DIMENSIONS Depth x Width x Height (inches)	TOTAL WEIGHT (lbs)	MAX CHARGE VOLTAGE	DISCHARGE TERMINATION VOLTAGE
		50% DOD	80% DOD				
180	2.34	1.17	1.87	9.3 x 16.5 x 26.1	120	14.6 V	12.75 V
400	5.20	2.60	4.16	13.5 x 23 x 27.2	190	14.6 V	12.75 V
700	9.10	4.55	7.28	12.8 x 29.9 x 28.1	250	14.6 V	12.75 V
1000	13.00	6.50	10.40	22.7 x 30 x 30.1	450	14.6 V	12.75 V

24V BATTERY (26V Actual, 8 x 3.25V Lithium Iron cells in series)

CAPACITY Amp-hours (Ah) 5-Hr Rate	TOTAL ENERGY Kilowatt-hours (kWh)	USABLE ENERGY Kilowatt-hours (kWh)		ENCLOSURE DIMENSIONS Depth x Width x Height (inches)	TOTAL WEIGHT (lbs)	MAX CHARGE VOLTAGE	DISCHARGE TERMINATION VOLTAGE
		50% DOD	80% DOD				
180	4.68	2.34	3.74	9.3 x 27.6 x 27.1	170	29.2 V	25.5 V
400	10.40	5.20	8.32	20 x 27 x 27.2	320	29.2 V	25.5 V
700	18.20	9.10	14.56	23.35 x 29.9 x 28.1	440	29.2 V	25.5 V
1000	26.00	13.00	20.80	27 x 43.2 x 30.1	820	29.2 V	25.5 V

48V BATTERY (52V Actual, 16 x 3.25V Lithium Iron cells in series)

CAPACITY Amp-hours (Ah) 5-Hr Rate	TOTAL ENERGY Kilowatt-hours (kWh)	USABLE ENERGY Kilowatt-hours (kWh)		ENCLOSURE DIMENSIONS Depth x Width x Height (inches)	TOTAL WEIGHT (lbs)	MAX CHARGE VOLTAGE	DISCHARGE TERMINATION VOLTAGE
		50% DOD	80% DOD				
180	9.36	4.68	7.49	16.3 x 27.6 x 27.0	270	58.4 V	51 V
400	20.80	10.40	16.64	20.12 x 50.3 x 27.2	550	58.4 V	51 V
700	36.40	18.20	29.12	26.9 x 47.3 x 28.3	840	58.4 V	51 V
1000	52.00	26.00	41.60	2 trays, each 27 x 43.2 x 30.1	1650	58.4 V	51 V

BATTERY SPECIFICATIONS

Battery Chemistry	Lithium Iron Phosphate (LiFePO4)
Battery Type	Rechargeable, sealed, maintenance-free
Safety Features	Fully integrated battery management system (BMS), automatic DC disconnect, inline fuse
Enclosure	Indoor-rated steel box with removable lid
Nominal Voltage	3.25 Volts (per cell)
Charging Voltage	3.5 Volts (per cell)
Efficiency	95%
Cycle Life	7000 Cycles at 30% DOD, 5000 Cycles At 50% DOD, 2000 Cycles at 80% DOD
State of Charge Usage Window	20% - 95%
Optimum Charge & Discharge Current	C/4
Minimum Charging Current	C/20
Maximum Continuous Charge & Discharge Current	C/2
Self-Discharge Rate	< 3% per month
Operating Temperature	-0°C To +45°C (32°F To +113°F)
Warranty	7 years, full replacement for first 36 months, pro-rated for months 37-84
Technical Support	Unlimited for life of battery

BATTERY MANAGEMENT SYSTEM SPECIFICATIONS

Function	Cell and pack voltage, ambient and cell temperature, current sensing
Over Voltage	Contactors Control, High Voltage Cut Off at 3.9V per cell
Under Voltage	Contactors Control, Low Voltage Cut Off at 2.9V per cell
Cell Balancing	Shunting resistors balance charge at 200mA per cell
Over Temperature	PTC resettable fuse opens at 80°C (176° F)

