



NICKEL IRON BATTERY

for Renewable Energy & Backup Power Applications



THE EVERLASTING BATTERY

Never worry about changing your solar battery again. Iron Edison's Nickel Iron battery is rated for at least 11,000 cycles with daily use. That's 30 years of loyal service.



DEEPEST DISCHARGE

Daily deep discharging has no impact on battery cycle life, allowing for more usable capacity. You'll never have to worry about accidental over-discharge damaging your battery bank.



MAXIMUM COMPATIBILITY

Available in 12, 24, and 48 Volt configurations, Iron Edison batteries are compatible with all major brands of inverters.



NEARLY INDESTRUCTIBLE

Nickel Iron is tolerant of over-charge, over-discharge, and below freezing temperatures. The alkaline electrolyte acts as a metal preservative, leading to years of uninterrupted performance.



SUPERIOR SUPPORT

Every Nickel Iron battery comes with a 10-year performance guarantee, along with lifetime technical support.

THE REBIRTH OF NICKEL IRON



Over a century ago, Thomas Edison found a battery design he considered nearly perfect. Today, Iron Edison is proud to offer an updated version of his incredible design.

Nickel Iron is an excellent solar and off-grid battery because of its tolerance for variable conditions and extremely long life.

"A good idea is never lost. Even though its originator or possessor may die without publicizing it, it will someday be reborn in the mind of another..."

- Thomas Edison

Questions?
We are happy to help!

Call:
720-432-6433

Email:
info@IronEdison.com

Live chat:
IronEdison.com

*Ask about our complete off-grid solar system design services.



BATTERY OPTIONS & DATA

12V NICKEL IRON BATTERY (10 x 1.2V Nickel Iron cells in series)

CAPACITY Amp-hours (Ah)		TOTAL ENERGY Kilowatt-hours (kWh)		USABLE ENERGY (80% DOD) Kilowatt-hours (kWh)		BATTERY WEIGHT (lbs)	ALPHA PASSONI RACK DIMENSIONS (W/BATTERY) Length x Width x Height (in)
5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate		
100	112.5	1.20	1.44	0.96	1.15	140	59.06 x 11.42 x 25
200	225	2.40	2.70	1.92	2.16	440	59.06 x 11.42 x 25
300	335	3.60	4.02	2.88	3.22	480	59.06 x 11.42 x 25
400	450	4.80	5.40	3.84	4.32	750	70.87 x 16.93 x 27.36
500	560	6.00	6.72	4.80	5.38	810	70.87 x 16.93 x 27.36
600	675	7.20	8.10	5.76	6.48	840	70.87 x 16.93 x 27.36
700	780	8.40	9.36	6.72	7.49	860	70.87 x 16.93 x 27.36
800	900	9.60	10.80	7.68	8.64	1320	76.77 x 16.93 x 29.72
900	1015	10.80	12.18	8.64	9.74	1360	76.77 x 16.93 x 29.72
1000	1125	12.00	13.50	9.60	10.8	1410	76.77 x 16.93 x 29.72

24V NICKEL IRON BATTERY (20 x 1.2V Nickel Iron cells in series)

CAPACITY Amp-hours (Ah)		TOTAL ENERGY Kilowatt-hours (kWh)		USABLE ENERGY (80% DOD) Kilowatt-hours (kWh)		BATTERY WEIGHT (lbs)	ALPHA PASSONI RACK DIMENSIONS (W/BATTERY) Length x Width x Height (in)
5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate		
100	112.5	2.40	2.70	1.92	2.16	280	59.06 x 22.83 x 28.94
200	225	4.80	5.40	3.84	4.32	880	59.06 x 22.83 x 28.94
300	335	7.20	8.04	5.76	6.43	960	59.06 x 22.83 x 28.94
400	450	9.60	10.80	7.68	8.64	1500	76.77 x 33.86 x 31.29
500	560	12.00	13.44	9.60	10.75	1620	76.77 x 33.86 x 31.29
600	675	14.40	16.20	11.52	12.96	1680	76.77 x 33.86 x 31.29
700	780	16.80	18.72	13.44	14.98	1720	76.77 x 33.86 x 31.29
800	900	19.20	21.60	15.36	17.28	2640	76.77 x 33.86 x 33.66
900	1015	21.60	24.36	17.28	19.49	2720	76.77 x 33.86 x 33.66
1000	1125	24.00	27.00	19.20	21.60	2820	76.77 x 33.86 x 33.66

48V NICKEL IRON BATTERY (40 x 1.2V Nickel Iron cells in series)

CAPACITY Amp-hours (Ah)		TOTAL ENERGY Kilowatt-hours (kWh)		USABLE ENERGY (80% DOD) Kilowatt-hours (kWh)		BATTERY WEIGHT (lbs)	ALPHA PASSONI RACK DIMENSIONS (W/BATTERY) Length x Width x Height (in)
5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate	5-Hr Rate	20-Hr Rate		
100	112.5	4.80	5.40	3.84	4.32	560	35.43 x 33.86 x 33.66
200	225	9.60	10.80	7.68	8.64	1760	59.06 x 25.59 x 68.51
300	335	14.40	16.08	11.52	12.86	1920	59.06 x 25.59 x 68.51
400	450	19.20	21.60	15.36	17.28	3000	70.87 x 36.61 x 70.87
500	560	24.00	26.88	19.20	21.50	3240	70.87 x 36.61 x 70.87
600	675	28.80	32.40	23.04	25.92	3360	70.87 x 36.61 x 70.87
700	780	33.60	37.44	26.88	29.95	3440	70.87 x 36.61 x 70.87
800	900	38.40	43.20	30.72	34.56	5280	76.77 x 36.61 x 73.23
900	1015	43.20	48.72	34.56	38.98	5440	76.77 x 36.61 x 73.23
1000	1125	48.80	54.00	38.40	43.20	5640	76.77 x 36.61 x 73.23

*9 cell (for 12V), 19 cell (for 24V), or 38 cell (for 48V) configurations may be required for voltage compatibility with equipment



BATTERY TECHNICAL SPECIFICATIONS

Chemical System	Nickel Iron (NiFe)
Battery Type	Rechargeable Deep Cycle, Flooded with Alkaline Electrolyte
Electrolyte Chemistry	Potassium Hydroxide (KOH) And Lithium Hydroxide (LiOH)
Electrolyte Refresh Rate	Suggested every 7-10 years to sustain maximum performance
Terminal Poles, Cell-To-Cell Busbars	Nickel-Plated Steel, Tinned Copper
Cell Container	Translucent, Corrosion-Free Polypropylene or ABS Engineering Plastic
Vents	Flame-Arresting Flip-Top Vents
Nominal Voltage	1.2 Volts (per cell)
Charging Voltage	1.65 Volts (per cell)
Efficiency	80%
Cycle Life	11,000 Cycles At 80% Depth Of Discharge
Float Life / Shelf Life	30 Years / 85 Years
Optimum Charge & Discharge Current	C/4
Minimum Charging Current	C/20
Maximum Continuous Charging Current	C/2
Maximum Pulsed Charging Current	1C
Maximum Discharge Current	C/2
Self-Discharge Rate	1% per day
Operating Temperature	-30° C To +60° C (-22° F To +140° F)
Warranty	10 years pro-rated
Technical Support	Unlimited for life of battery

INDIVIDUAL CELL SIZE GUIDE

	Width (inches)	Depth (inches)	Height (inches)	Weight (lbs)	Volume (gallons)
100 Ah	3.2	5.6	14.5	14	0.4
200 Ah	5.4	10.9	17.7	44	1.5
300 Ah	5.4	10.9	17.7	48	1.5
400 Ah	6.9	11.5	20.1	75	2.4
500 Ah	6.9	11.5	20.1	81	2.4
600 Ah	6.9	11.5	20.1	84	2.3
700 Ah	6.9	11.5	20.1	86	2.3
800 Ah	7.3	15.7	22.4	132	4.4
900 Ah	7.3	15.7	22.4	136	4.3
1000 Ah	7.3	15.7	22.4	141	4.2



INCLUDED ACCESSORIES

- Metal Busbars and Plastic Busbar Covers
- Flip Top Vent Plugs
- Terminal Wrench
- Vent Wrench
- Hydrometer
- Thermometer
- Rubber Gloves, Apron, & Safety Glasses
- Volt Meter

RECOMMENDED ACCESSORIES

(visit IronEdison.com for more information)

- Alpha Passoni Battery Rack
- Philadelphia Scientific Watering System
- Zephyr Vent Fan

