

RECHARGEABLE LITHIUM IRON PHOSPHATE BATTERY

IFM12-90E2 (12.8V 9Ah)

Standard Model

Nominal Voltage 12.8V Nominal Capacity @5hr Rate 9Ah Watt-hour 115.2Wh Dimensions	SPECIFICATIONS	
Watt-hour 115.2Wh Dimensions 151mm Length 151mm Width 65mm Height 94mm Weight 1.2kg Internal Resistance (at 1KHz) ≤40mΩ Charge @25°C 3tandard Charge Current 1.8A Maximum Charge Current 9A Cut-off Voltage 14.4V (14.6V max.) Discharge @25°C 12A Standard Discharge Current 1.8A Max. Continuous Discharge 12A Cut-off Voltage 10.0V (9.2V min.) Assembly 18650 - 4S6P Operating Temp +5 - +45°C Discharge -10 - +60°C Storage -10 - +40°C Humidity RH≤85% Case Material ABS+PC Termination F2 (Faston 250) IP Rating IP56	Nominal Voltage	12.8V
Dimensions151mmLength151mmWidth65mmHeight94mmWeight1.2kgInternal Resistance (at 1KHz)≤40mΩCharge @25°C\$tandard Charge Current1.8AMaximum Charge Current9ACut-off Voltage14.4V (14.6V max.)Discharge @25°C\$tandard Discharge Current1.8AMax. Continuous Discharge12ACut-off Voltage10.0V (9.2V min.)Assembly18650 - 456POperating Temp+5 - +45°CDischarge-10 - +60°CStorage-10 - +40°CHumidityRH≤85%Case MaterialABS+PCTerminationF2 (Faston 250)IP RatingIP56	Nominal Capacity @5hr Rate	9Ah
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Width 65mm Height 94mm Weight 1.2kg Internal Resistance (at 1KHz) ≤40mΩ Charge @25°C \$40mΩ Standard Charge Current 1.8A Maximum Charge Current 9A Cut-off Voltage 14.4V (14.6V max.) Discharge @25°C \$12A Standard Discharge Current 1.8A Max. Continuous Discharge 12A Cut-off Voltage 10.0V (9.2V min.) Assembly 18650 - 456P Operating Temp +5 - +45°C Discharge -10 - +60°C Storage -10 - +40°C Humidity RH≤85% Case Material ABS+PC Termination F2 (Faston 250) IP Rating IP56	Dimensions	
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Maximum Charge Current Cut-off Voltage9A14.4V (14.6V max.)14.4V (14.6V max.)Discharge @25°C1.8AStandard Discharge Current Max. Continuous Discharge Cut-off Voltage12ACut-off Voltage10.0V (9.2V min.)Assembly18650 - 486POperating Temp Charge Discharge Storage+5 - +45°C -10 - +60°C -10 - +40°CStorage-10 - +40°CHumidityRH≤85%Case MaterialABS+PCTerminationF2 (Faston 250)IP RatingIP56	Charge @25°C	
Cut-off Voltage Discharge @25°C Standard Discharge Current Max. Continuous Discharge Cut-off Voltage 12A 1.8A 12A 10.0V (9.2V min.) Assembly 18650 - 4S6P Operating Temp Charge Discharge 10 - +40°C Storage Humidity RH≤85% Case Material ABS+PC Termination IP Rating	Standard Charge Current	1.8A
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Operating Temp +5 - +45°C Charge +5 - +45°C Discharge -10 - +60°C Storage -10 - +40°C Humidity RH≤85% Case Material ABS+PC Termination F2 (Faston 250) IP Rating IP56	Cut-off Voltage	10.0V (9.2V min.)
Charge +5 - +45°C Discharge -10 - +60°C Storage -10 - +40°C Humidity RH≤85% Case Material ABS+PC Termination F2 (Faston 250) IP Rating IP56	Assembly	18650 - 4S6P
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Storage-10 - +40°CHumidityRH≤85%Case MaterialABS+PCTerminationF2 (Faston 250)IP RatingIP56	Charge	+5 - +45°C
HumidityRH≤85%Case MaterialABS+PCTerminationF2 (Faston 250)IP RatingIP56	Discharge	-10 - +60°C
Case Material ABS+PC Termination F2 (Faston 250) IP Rating IP56	Storage	-10 - +40°C
Termination F2 (Faston 250) IP Rating IP56	Humidity	RH≤85%
IP Rating IP56	Case Material	ABS+PC
	Termination	F2 (Faston 250)
Communications Port N/A	IP Rating	IP56
	Communications Port	N/A
Maximum Modules In Series 2	Maximum Modules In Series	2

BUILT IN PROTECTION

All Drypower Rechargeable Lithium batteries adhere to strict safety guidelines by incorporating Battery Management Systems (BMS) that include protection components such as:

temperature protection, over current protection, balancing function

- Integrated Circuit (IC) Thermistor
- MOSFET • Fuse
- Protection Circuit Module (PCM)

The BMS in each Drypower battery helps to:

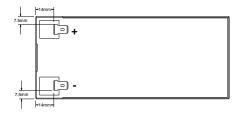
- 1. Maintain safety for users.
- 2. Prevent damage to equipment and property.
- 3. Eliminate concerns about use of the wrong type of charger.
- 4. Minimise the risk of overdischarge causing damaging.
- 5. Provide short circuit and overcharge protection.



Drypower Rechargeable Lithium (LiFePO4) batteries offer unmatched performance in a wide range of industrial or high drain applications.

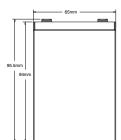
With its impressive cycle life of up to 2000 cycles, implementing Drypower batteries drastically reduces overall total cost of ownership compared to SLA batteries.

DIMENSIONS





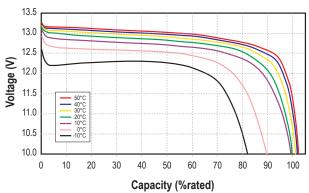






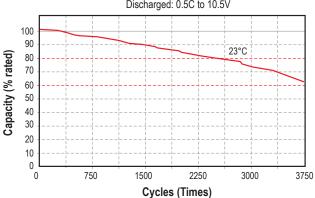
Discharge Voltage Profiles @ 0.5C Discharge Rate

Various Ambient Temperatures



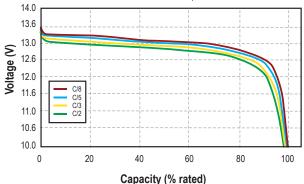
Discharge Capacity Performance

Charged: 0.5C to 14.6V, CV@14.6 to 1A Discharged: 0.5C to 10.5V



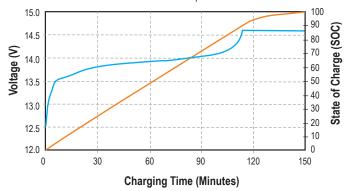
Discharge Voltage Profiles @ Various Temperatures





Typical Voltage Profiles & SOC Profiles @ 0.5C Charging

23°C Ambient Temperatures



FEATURES & BENEFITS



High cycle life

>2000 cycles @80% DoD for effectively lower total cost of ownership.



Lightweight

Drypower Lithium batteries provide more Wh/Kg while also being up to 1/3 the weight of its SLA equivalent.



Built in circuit protection

Battery Management Systems (BMS) are incorporated to maintain safety and prevent damage.



Better storage

12-18+ months thanks to its extremely low self discharge (LSD) rate and no risk of sulphation.



Quickly recharge

Save time and increase productivity with less down time thanks to superior charge/discharge efficiency.



Extreme heat tolerance

Suitable for use in a wider range of applications where ambient temperature is unusually high: up to +60°C.



Longer service life

Low maintenance batteries with stable chemistry. Easily monitor state of health (SoH) of smart models.

SUITABLE APPLICATIONS

Lithium Iron Phosphate can be used in any application that would normally use Lead Acid, GEL or AGM type batteries*. LiFePO4 in 4S = 12.8V and 8S = 25.6V is closest to Lead Acid equivalents of the lithium rechargeable types.

Suitable applications include caravan, marine, golf carts & buggies, solar storage, remote monitoring, switching applications and more.

*Exceptions may apply so please consult with a Drypower technical expert for more information regarding your application.

CAUTIONS

- Do NOT short circuit, crush or disassemble.
- Do NOT heat or incinerate.
- Do NOT immerse in any liquid.
- Only use a Drypower approved LiFePO4 charger.
- Store at 50% capacity. Recharge every 3 months. The storage area should be clean, cool, dry and ventilated.

Performance may vary depending on application. All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.