

# ACES **Li** POWER

PRODUCT OVERVIEW

12V 24V 48V 72V HFA Series



HFA series with smart BMS

LITHIUM **LiFePO4** BATTERIES



ACES LI POWER®

## ACES Lithium (LiFePO4) batteries have many advantages compared with traditional lead-acid batteries

- 5 years manufacturers warranty
- Smaller size and 3-4 times lower weight
- Safest technology, without risk of fire or explosion
- Much higher available capacity at high load
- 6-10 times higher cycle life
- Can be charged at any moment (no memory effect)
- Long service life of about 10-15 years
- Charging efficiency about 99% versus 80% of lead-acid
- Much lower risk of deep discharge damage (protection by internal BMS)

## Integrated Battery Management System (BMS)

The ACES integrated BMS functions are to protect the battery and to increase the lifetime. The smart cell balancing system will result in availability of the maximum capacity over time. The protection system will protect the battery against overcharging, overdischarging, overcurrent, overheating and short circuit.

## Why ACES LiFePO4 batteries



- ACES LiFePO4 batteries developed in the Netherlands
- Broad range of battery models
- 5 years of warranty
- Service Center in the Netherlands
- Batteries can be repaired
- Direct customer technical support
- The batteries are qualified and tested by ACES

## Bluetooth monitoring via App

Important battery data will be always available on your smartphone or tablet.





## 12V LiFePO4 series technical specifications 24-80AH

				
Description	12.8V 24AH	12.8V 45AH	12.8V 60AH	12.8V 80AH
Model name	AL12V24HFA	AL12V45HFA-BT	AL12V60HFA-BT	AL12V80HFA-BT
EAN / GTIN	4738474176742	4738470384141	4738479938789	4738476325483
Rated Capacity	24Ah / 307WH	45Ah / 576WH	60Ah / 768WH	80Ah / 1024WH
Discharge current	24A	45A	60A	80A
Peak discharge current	100A	125A	200A	300A
Maximum charge current	24A	45A	60A	80A
Recommended charge current	2...12A	4...23A	6...30A	8...40A
Nominal Voltage	12.8V			
Operational Voltage range	11.0...13.5V			
BMS cutoff Voltage	10V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	14.2...14.6V (13.5V float Voltage)			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	No	Yes inside; App available for Android and Iphone		
IP protection rating	IP65			
Temperature range discharge	-20°C ... +60 °C			
Temperature range charge	0°C ... +45 °C			
Temperature storage <1 month	-20°C ... +50 °C			
Temperature storage >1 month	5 °C ... +30 °C			
Connection	M5	M8	M8	M8
Weight	3 kg	4 kg	7.2 kg	9.3 kg
Dimensions (L x W x H) mm	181 x 76 x 167	165 x 126 x 175	197 x 166 x 173	260 x 168 x 209
Warranty	5 years			

## 12V LiFePO4 series technical specifications 100-150AH





				
Description	12.8V 100AH	12.8V 120AH	12.8V 150AH	12.8V 150AH DIN
Model name	AL12V100HFA-BT	AL12V120HFA-BT	AL12V150HFA-BT	AL12V150HFAS-BT
EAN / GTIN	4738475950945	4738476073223	4738479950491	4738471253859
Rated Capacity	100Ah / 1280WH	120Ah / 1536WH	150Ah / 1920WH	150Ah / 1920WH
Discharge current	100A	120A	150A	150A
Peak discharge current	300A	350A	360A	360A
Maximum charge current	100A	120A	150A	150A
Recommended charge current	10...50A	12...60A	15...75A	15...75A
Nominal Voltage	12.8V			
Operational Voltage range	11.0...13.5V			
BMS cutoff Voltage	10V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	14.2...14.6V (13.5V float Voltage)			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	Yes inside; App available for Android and Iphone			
IP protection rating	IP65			
Temperature range discharge	-20°C ... +60 °C			
Temperature range charge	0°C ... +45 °C			
Temp. storage <1 month	-20°C ... +50 °C			
Temp. storage >1 month	5 °C ... +30 °C			
Connection	M8	M8	M8	M8
Weight	12.8 kg	13 kg	19 kg	17 kg
Dimensions (L x W x H) mm	306 x 168 x 211	260 x 168 x 209	483 x 170 x 240	355 x 175 x 188
Warranty	5 years			

## 12V LiFePO4 series technical specifications 200-400AH


				
Description	12.8V 200AH	12.8V 280AH	12.8V 320AH	12.8V 400AH
Model name	AL12V200HFA-BT	AL12V280HFA-BT	AL12V320HFA-BT	AL12V400HFA-BT
EAN / GTIN	4738476085431	4738477657125	4738470491856	4738477621232
Rated Capacity	200Ah / 2560WH	280Ah / 3584WH	320Ah / 4096Wh	400Ah / 5120Wh
Discharge current	150A	200A	150A	150A
Peak discharge current	360A	400A	400A	400A
Maximum charge current	150A	150A	150A	150A
Recommended charge current	20...100A	20...100A	20...150A	20...150A
Nominal Voltage	12.8V			
Operational Voltage range	11.0...13.5V			
BMS cutoff Voltage	10V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	14.2...14.6V (13.5V float Voltage)			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	Yes inside; App available for Android and Iphone			
IP protection rating	IP65			
Temp. range discharge	-20°C ... +60 °C			
Temp. range charge	0°C ... +45 °C			
Temp. storage <1 month	-20°C ... +50 °C			
Temp. storage >1 month	5 °C ... +30 °C			
Connection	M8	M8	M8	M8
Weight	23 kg	24 kg	32 kg	39 kg
Dimensions (L x W x H) mm	522 x 239 x 218	345 x 190 x 245	522 x 267 x 218	522 x 267 x 218
Warranty	5 years			







## 24V LiFePO4 series technical specifications 12-60AH

				
Description	25.6V 12AH	25.6V 30AH	25.6V 50AH	25.6V 60AH
Model name	AL24V12HFA	AL24V30HFA-BT	AL24V50HFA-BT	AL24V60HFA-BT
EAN / GTIN	4738474993882	4738470670572	4738475996288	4738473635950
Rated Capacity	12Ah / 307WH	30Ah / 768WH	50Ah / 1280WH	60Ah / 1536WH
Discharge current	12A	30A	50A	60A
Peak discharge current	80A	140A	220A	220A
Maximum charge current	12A	30A	50A	60A
Recommended charge current	1...6A	3...15A	5...25A	6...30A
Nominal Voltage	25.6V			
Operational Voltage range	22...27V			
BMS cutoff Voltage	20V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	28.4...29.2V			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	no	Yes inside; App available for Android and Iphone		
IP protection rating	IP65			
Temp. range discharge	-20°C ... +60 °C			
Temp. range charge	0°C ... +45 °C			
Temp. storage <1 month	-20°C ... +50 °C			
Temp. storage >1 month	5 °C ... +30 °C			
Connection	M5	M8	M8	M8
Weight	3 kg	7.2 kg	12.8 kg	12 kg
Dimensions (L x W x H) mm	181 x 76 x 167	197 x 166 x 173	306 x 168 x 211	260 x 168 x 209
Warranty	5 years			

## 24V LiFePO4 series technical specifications 75-200AH

				
Description	25.6V 75AH	25.6V 84AH	25.6V 100AH	25.6V 160AH / 200AH
Model name	AL24V75HFA-BT	AL24V84HFA-BT	AL24V100HFA-BT	AL24V160HFA-BT AL24V200HFA-BT
EAN / GTIN	4738477281177	4738478485765	4738479791995	4738475180120 (160AH) 4738472410213 (200AH)
Rated Capacity	75Ah / 1920WH	84Ah / 2048WH	100Ah / 2560WH	160Ah / 4096WH 200Ah / 5120WH
Discharge current	75A	84A	100A	150A
Peak discharge current	220A	350A	350A	400A
Maximum charge current	75A	80A	100A	150A
Recommended charge current	8...38A	8...40A	10...50A	16...80A
Nominal Voltage	25.6V			
Operational Voltage range	22...27V			
BMS cutoff Voltage	20V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	28.4...29.2V (27V float Voltage)			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	Yes inside; App available for Android and Iphone			
IP protection rating	IP65			
Temp range discharge	-20°C ... +60 °C			
Temp. range charge	0°C ... +45 °C			
Temp. storage <1 month	-20°C ... +50 °C			
Temp. storage >1 month	5 °C ... +30 °C			
Connection	M8	M8	M8	M8
Weight	12.8 kg	19 kg	22.5 kg	32 kg (160AH) 39 kg (200AH)
Dimensions (L x W x H) mm	306 x 168 x 211	483 x 170 x 240	522 x 239 x 218	522 x 267 x 218
Warranty	5 years			

## 48V LiFePO4 series technical specifications 12-100AH

				
Description	51.2V 12AH	51.2V 18AH	51.2V 30AH	51.2V 80AH / 100AH
Model name	AL48V12HFA-BT	AL48V18HFA-BT	AL48V30HFA-BT	AL48V80HFA-BT AL48V100HFA-BT
EAN / GTIN	4738470107085	4738478548255	4738478298242	4738470112966 (80AH) 4738475050539 (100AH)
Rated Capacity	12AH / 614WH	18AH / 921WH	30AH / 1536WH	80AH / 4096WH 100AH / 5120WH
Discharge current	12A	18A	30A	80A / 100A
Peak discharge current	60A	80A	100A	220A
Maximum charge current	12A	18A	30A	80 / 100A
Recommended charge current	2...6A	3...9A	3...15A	8...40A / 10...50A
Nominal Voltage	51.2V			
Operational Voltage range	44.0...54V			
BMS cutoff Voltage	40V			
Cycle Life 0.2C 80% DOD	>4000			
Charge end voltage range	57.6...58.4V (54V float Voltage)			
Charge characteristic	CC / CV			
Battery Management System	Integrated			
Serial connection	Not allowed			
Parallel connection	Up to 4 batteries			
Bluetooth monitoring	Yes inside; App available for Android and Iphone			
IP protection rating	IP65			
Temperature range discharge	-20°C ... +60 °C			
Temperature range charge	0°C ... +45 °C			
Temperature storage <1 month	-20°C ... +50 °C			
Temperature storage >1 month	5 °C ... +30 °C			
Connection	M8	M8	M8	M8
Weight	6 kg	8 kg	13.5 kg	32 kg (80AH) 39kg (100AH)
Dimensions (L x W x H) in mm	181 x 76 x 167	260 x 168 x 209	330 x 172 x 215	522 x 267 x 218
Warranty	5 years			



## 72V LiFePO4 series technical specifications 30-60AH

		
Description	73.6V 30AH	73.6V 60AH
Model name	AL72V30HFA-BT	AL72V60HFA-BT
EAN / GTIN	4738475685267	4738475648910
Rated Capacity	30AH / 2208WH	60AH / 4416WH
Discharge current	30A	60A
Peak discharge current	120A	200A
Maximum charge current	30A	60A
Recommended charge current	3...15A	6...30A
Nominal Voltage	73.6V	
Operational Voltage range	63.0...77.6V	
BMS cutoff Voltage	63V	
Cycle Life 0.2C 80% DOD	>4000	
Charge end voltage range	80...82.8V (77.6V float Voltage)	
Charge characteristic	CC / CV	
Battery Management System	Integrated	
Serial connection	Not allowed	
Parallel connection	Up to 4 batteries	
Bluetooth monitoring	Yes inside; App available for Android and Iphone	
IP protection rating	IP65	
Temperature range discharge	-20°C ... +60 °C	
Temperature range charge	0°C ... +45 °C	
Temperature storage <1 month	-20°C ... +50 °C	
Temperature storage >1 month	5 °C ... +30 °C	
Connection	M8	M8
Weight	17 kg	34 kg
Dimensions (L x W x H) in mm	483 x 170 x 240	522 x 267 x 218
Warranty	5 years	