



Lithium-Battery Pack with protection electronics (PCM single cells monitoring), protects the battery against overcharge, deep discharge, short circuit, Implemented cell balancing, and Gas Gauge with SMBus Interface.

Connectors:

Main line: cable with PP-connector
+ Red and – Black.

http://www.accupower.at/products_connector.php

Applications:

Automotive
Industrial
Medical
Sport
and others

Pack Specifications	
Nominal Voltage	51.1 V
Capacity (Nominal)	19.95 Ah ±6%
Energy	1019.46 Wh
Weight	5200 grams ±50g.
Size, Max. (L x W x H) mm	270 x 135 x 81 ±1
Operating Specifications	
Operating Voltage	37.8 V to 58.8 V
Charge Voltage	(Max. 58.80 V)
Discharge End Volt.	37.8V
Operating Temperature: Discharge Charge	-20°C to 55°C 0°C to 45°C
Max. Discharge Current	30A (continuous) @ 25°C 60A / 5s (Peak)
Max. Charge Current	20A (continuous) @ 25°C 60A / 5s (Peak)
Storage Specifications	
Storage Temperature	1 year : -20~25°C(1*)
Rh: (0% ~ 75%)	3 months : -20~45°C(1*)
SoC: State-of-Charge ≥ 70%	1 month : -20~60°C(1*)

Note (1): If the cell is kept as ex-factory status (≤ 30% of charge), the capacity recovery rate is more than 80%.

Lithium-Battery Pack with protection electronics (PCM single cells monitoring), protects the battery against overcharge, deep discharge and short circuit, Implemented cell balancing, with interface for service purposes (number of cycles, capacity, temperature, etc.)

Standard charging method

0.5C CC (constant current) charge to Max. 58.80V, then CV (constant voltage Max. 58.80V) charge till charge current decline to ≤ 0.02C

Transportation:

Transport according to the current regulations: ADR / RID / ADN / IATA / IMDG. Battery over 100Wh / Class: 9 / UN-Number: UN3480. Shipping name: Lithium ion batteries. Environmental hazards / Marine pollutant: No

Care and safety recommendations:

Never open, short circuit or put in fire. Do not install backwards. Avoid short circuit with metal objects.

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 **ATTENTION! Recharge batteries immediately after receipt:** 

Please pay attention to following recommendations:

1. Please fully charge before using it with the suitable charger!!!
2. Always avoid deep discharge of the battery
3. Charge the battery before longer Storage.
4. Use only the battery charger specified for this battery type.
5. Do not leave battery in charger over 24 hours.
6. Keep it in a cool and dry place.
7. Avoid exposure to high temperatures.
8. Do not disassemble or modify the battery, may cause the battery to generate heat, explode or ignite.
9. Dispose properly used batteries. Dispose it according to the applicable recycling regulations. Contact your city recycling coordinator. Thank you.
10. If the battery will be stored before use - then charge the battery with the suitable charger up to 70% for long-term storage, the battery must be recharged again to 70% after a maximum of four months.

Overcharge/Overdischarge/Overcurrent Safety Circuits:

The controller IC measures the voltage for each cell (or for each parallel battery block) and shuts off a control switch to either prevent overcharging (if the voltage exceeds the specified voltage range) or to prevent over discharging (if the voltage falls below the specified voltage range). Moreover, the voltage of the control switch is measured on both ends and in order to prevent overcurrent, control switches are shut off if the voltage exceeds specifications.

• The Functions of the Safety Circuits (typical functions)

The voltages listed below are typical values and are not guaranteed. The charge voltage varies according to model number.

1. The Overcharge Safety Function

The charge stops when the voltage per cell rises above 4.30 ± 0.05 V.
The charge restarts when the voltage per cell falls below 3.90 ± 0.03 V.

2. The Overdischarge Safety Function

The discharge stops when the voltage per cell falls below 2.70 ± 0.05 V.
The discharge restarts when the voltage per cell rises above 3.20 ± 0.05 V.

3. The Overcurrent Safety Function

The discharge is stopped when the output terminals are shorted. The discharge restarts when the short is removed.

Attention: Please fully charge the batteries before using!!!

 **ATTENTION! Recharge batteries immediately after receipt:** 

Due to the new IATA Dangerous Goods Regulations since April 2016, the state of charge condition for air transport must not exceed 30% of the nominal capacity!

If you receive a battery pack with airfreight with 30% charge and it will be sent by air again after storage, the state of charge 30% must be checked every 2 months and recharged according to 30%.

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Communication Connector for AccuPower 14S7P Battery-Packs:

PIN number 1: VSS+ Wire color Red

PIN number 2: SM Clock (SMC) Wire color Green

PIN number 3: SM Data (SMD) Wire color Yellow

PIN number 4: GND- Wire color Black

PIN number 5: PRES Wire color Blue:

(Enable Pin: Enable PIN pull down to Ground to enable battery (on Ground = ON, Open = OFF))

Register Settings:

Register Family	Subregister	Register	Set Value	Unit
Protections	CUV	Threshold	2700	mV
		Delay	2	s
		Recovery	3200	mV
Protections	COV	Threshold	4300	mV
		Delay	5	s
		Recovery	3900	mV
Protections	OCC	Threshold	22000	mA
		Delay	30	s
		Recovery Threshold	0	mA
		Recovery Delay	5	s
Protections	OCD	Threshold	-32000	mA
		Delay	30	s
		Recovery Threshold	0	mA
		Recovery Delay	5	s
Protections	OTC	Threshold	50.0	°C
		Delay	2	s
		Recovery	45.0	°C
Protections	OTD	Threshold	60.0	°C
		Delay	2	s
		Recovery	55.0	°C
Protections	OTF	Threshold	80.0	°C
		Delay	2	s
		Recovery	65.0	°C
Protections	UTC	Threshold	-5.0	°C
		Delay	2	s
		Recovery	0	°C
Protections	UTD	Threshold	-10.0	°C
		Delay	2	s
		Recovery	0	°C
SBS Configuration	Data	Serial Number	consecutive	hex
		Manufacturer Name	AccuPower	-
		Device Name	14S19.9Ah	-
		Device Chemistry	LION	-

NOTE:

Information and contents in this datasheet are for reference purpose only. They do not constitute any warranty or representation and are subject to change without notice.