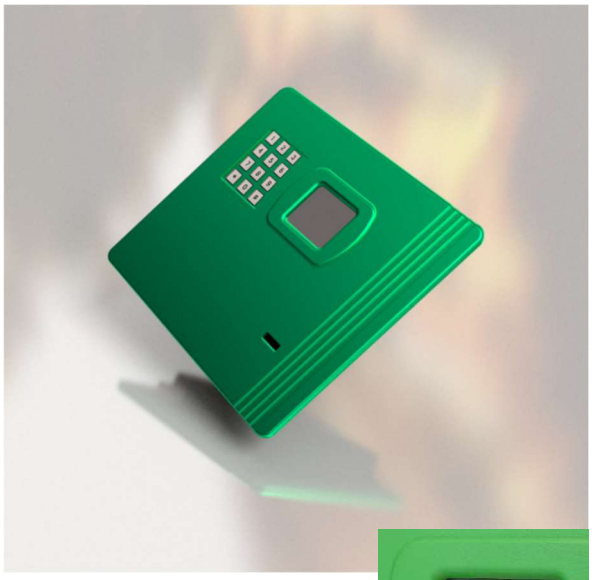
FPC-Charge Controller

for Lead Acid Battery/LFP Battery/LFP with cell sensing wire with Pay as you Go options



- PWM charge controller for PB (Lead Acid) Battery and LFP (LI-FE-PO4) Battery
- BMS for LFP integrated
- Clear and easy to read LCD display for System Status
- Load output control by MosFet with freewheeling diode for inductive load protection
- 12 Months Datalogger integrated
- Front Panel assembly for optimized project design
- Programmable overcharge and over discharge parameter via PC Interface adapter (option)
- USB Interface (option) for reading data logger Values and transfer customized settings
- Software update via Interface on demand
- USB charger
- 4 stage charging, with temperature compensation (PB-Battery)
- PCBA with conformal coating

FPC-Charge Controller with 4 stage temperature compensated PWM charging for PB-Batteries and LFP Battery settings, with outstanding options for long battery life and battery protection. Best LFP Battery lifetime achievements using the single cell monitoring and controlling with integrated BMS functions.

The clear and easy to read system status LCD-display informs the user about the latest system status.

The various deep discharge protection options can allow to adjust the settings according to system and battery requirements. Via computer Interface most system parameters can be adjusted according the demand.

The integrated one-year datalogger can support analyzing the systems in the field applications. Monitor consumptions, harvests and help to detect System application problems.

The front panel case allows easy installation into battery boxes without user access to wiring, for safe and reliable system operation. Integrated PAYG functionality with open PAYG protocol opens various applications for this controller.

FPC-PAYG Option provides a PAYG controlled Load Switch. The integrated keypad in combination with big LCD display allows easy Token application for the end-user and the LCD provide clear information about Payment status and Error massages if anything happens wrong.

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Controller Type: FPC-xx/yy-KP-PB-LFP: (Factory configuration on request)

Technical Data	Application1:	Application2:	Application3:
Battery Type:	**Lead Acid (GEL, AGM, flooded)**	**LFP Battery + and – connection (Lead Acid battery replacement)**	**LFP Battery + and – and single cell sensing wire connection**
Nominal Voltage:	12V	12.8V	12.8V
Max Charging Current:	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A
Max Load Current:	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A	FPC-10/10-KP-PB-LFP: 10A FPC-20/20-KP-PB-LFP: 20A
Charge voltage settings:	**Lead Acid Battery 12V** • Float Charge: 13.5V • Main Charge: 14.4V (30min. daily) • Boost Charge: 14.4V (2h, activation @ battery voltage <12.3V) • Equalization Charge: 15.0 (2h, activation @ battery voltage <12.1V) • Temperature compensation: -18mV/K (All values @ 25°C for 12V System)	**LFP (LI-FE-PO4) Battery 12.8V:** • End of Charge Voltage: 14.0V	**LFP (LI-FE-PO4) Battery 12.8V:** • End of Charge Voltage: 3.55V/cell • Charge current limitation at <0°C and >45°C Battery temperature
Load Control	based on battery status a. Fix Voltage: 11V b. Fix Voltage: 11.5V c. SOC (11V to 11.75V) d. SOC (11.5V to 11.9V) e. Load reconnect level: 12.8V f. PAYG	based on battery status a. Fix Voltage: 11V b. Load reconnect level: 12.8V c. PAYG	based on battery status a. Fix Voltage: 2.65V/cell b. Load reconnect level: at 10% SOC c. PAYG
USB Charger	USB-A socket, 5V/1.5A	USB-A socket, 5V/1.5A	USB-A socket, 5V/1.5A
LFP-BMS Battery Management System	n.a.	n.a.	Single cell monitoring, single cell controlling, Battery temperature controlling, Charge and discharge protect switch, auto restart after failure conditions disappear.
Connections:	Battery: two pin Power Plug Panel, Load +/-: Screw terminal for Ring lug	Battery: two pin Power Plug and Panel, Load +/-: Screw terminal for Ring lug	Battery: two pin Power Plug and 7pin sensing wire terminal Panel, Load +/-: Screw terminal for Ring lug
Protections:	Load overcurrent, load short circuit, Burst/Surge (Varistor), Overtemperature, Panel revers polarity, Panel reverse current, Inductive load protection	Load overcurrent, load short circuit, Burst/Surge (Varistor), Overtemperature, Panel revers polarity, Panel reverse current, Inductive load protection	Load overcurrent, load short circuit, Burst/Surge (Varistor), Overtemperature, Panel revers polarity, Panel reverse current, Inductive load protection
Further Protections:	Battery undervoltage: 10.5V Battery overvoltage: 15.5V	Battery undervoltage: 10.5V Battery overvoltage: 15.5V	Cell undervoltage: 10.5V Cell overvoltage: 15.5V
Datalogger	1-year datalogger: 28-day data sets + 12-Month datasets	1-year datalogger: 28-day data sets + 12-Month datasets	1-year datalogger: 28-day data sets + 12-Month datasets
Grounding:	Positive grounding	Positive grounding	Positive grounding
Ambient Temperature:	-25 to +50°C	-25 to +50°C	-25 to +50°C
IP Rating:	IP22	IP22	IP22
Self-consumption:	<6mA @ 12V	<6mA @ 12V	<6mA @ 12V
Max altitude:	5000m	5000m	5000m
Display:	LCD	LCD	LCD
PAYG	PAYG symbol, number of days to use, Error codes, warnings	PAYG symbol, number of days to use, Error codes, warnings	PAYG symbol, number of days to use, Error codes, warnings
SOC	4 battery bar, SOC, Battery Voltage	4 battery bar, Battery Voltage	4 battery bar, SOC, Battery Voltage, remaining load run time
Load output	Lamp symbol	Lamp symbol	Lamp symbol
Charging:	Sun Symbol	Sun Symbol	Sun Symbol
Error massages	Overcurrent, Overtemperature, Error codes	Overcurrent, Overtemperature, Error codes	Overcurrent, Overtemperature, Error codes
Dimensions (WxHxD)	188*188*35mm	188*188*35mm	188*188*35mm
Assembly type:	Front panel	Front panel	Front panel
Interface:	UART Interface: USB/UART converter (option) for PC communication (configuration, data read out)	UART Interface: USB/UART converter (option) for PC communication (configuration, data read out)	UART Interface: USB/UART converter (option) for PC communication (configuration, data read out)
Pay as you Go	yes	yes	yes

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