



## Skan 60.0

### Battery Charger

JM-No. 609 01 99



#### Scope of supply:

JMP Skan 60.0, adapter cable with clips,  
power cable

Thank you for choosing a JMP Skan battery charger. The JMP Skan 60.0 battery charger is suitable for use as a power source for the diagnosis/flashing of control units and the charging of batteries.

#### Technical data:

12 V / 5-60 A, for batteries from 5 Ah to 600 Ah

Dimensions: 300 x 400 x 150 mm, weight: 5.9 kg, power cable: 1.7 m, connection cable: 2.7 m

#### Suitable for:

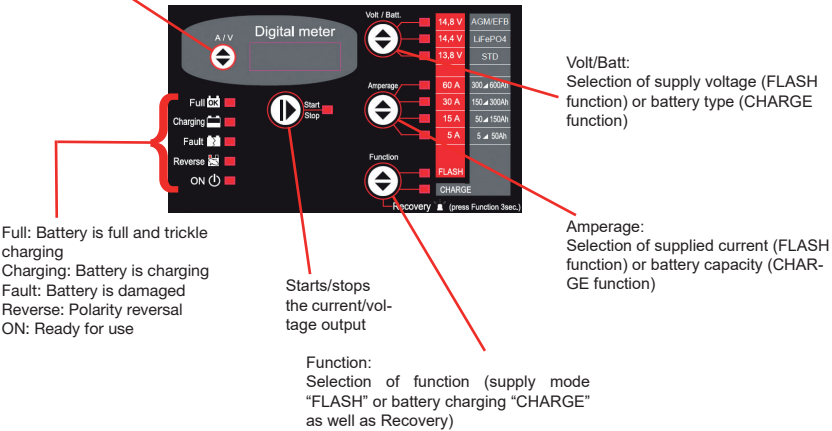
- Standard lead acid
- Gel
- AGM
- EFB
- Lithium (LiFePO<sub>4</sub>)

#### Safety information:

- Please read this operating manual through carefully before using the battery charger. Failure to comply with this safety information can result in serious injuries.
- The device must not be used for purposes other than those specified herein.
- Do not use the device in explosive atmospheres or in the vicinity of flammable materials, as it may produce sparks which can ignite dust or fumes.
- Store out of reach of children. This device is not a toy and must not be used as such.
- Do not inhale any gases escaping the battery.
- The battery acid is corrosive. In case of accidental contact between the acid and the skin or eyes, rinse immediately under running water and consult a doctor.
- Use the battery charger in a dry, well ventilated environment and avoid moisture.
- Verify that the device is in full working order before using it.
- Improper use and unauthorised modification of the device void all warranty claims.
- Always wear safety goggles and protective clothes when connecting and disconnecting the battery and keep the battery away from your face.
- Never allow the two clips to come into contact with each other.
- The device and power cable must only be repaired and serviced by authorised specialist personnel.
- Switch off all unnecessary consumer loads in the vehicle before connecting up the device.

Control panel:

Selection of current/voltage display



Available modes:

<b>Battery charging</b> "CHARGE"	Battery type "Batt."	AGM/EFB (max. 14,7 V) LiFePO4 (max. 14,4 V) STD (max. 14,4 V)
	Battery capacity "Amperage"	300-600 Ah; 150-300 Ah; 50-150 Ah; 5-50 Ah
<b>Power cable mode</b> "FLASH"	Voltage output "Volt"	14,8 V; 14,4 V; 13,8 V
	Current output "Amperage"	60 A; 30 A; 15 A; 5 A
<b>"Recovery"</b>	Regenerating mode for sulphatised batteries. Select by holding the function key depressed for 3 seconds (display: "REC"). No error messages are displayed during the charging process. An increased voltage of 15.5 V is forced. <b>Note! Only run recovery mode with the battery disconnected from the vehicle in order to avoid damage! Do not charge lithium batteries in recovery mode under any circumstances! The CHARGE LED flashes.</b>	

## **Use of the charger:**

### **Connection**

1. Connect the charger's power cable up to the power socket and the power switch.
2. Firstly, connect the red clip to the battery's positive terminal.
3. Then connect the black clip to either the battery's negative terminal or the chassis ground.
4. Select the desired mode (see "Available modes") and press Start.
5. When subsequently switching to another mode, interrupt the current mode firstly by pressing Stop.

### **Disconnection**

1. Once you have finished using the charger, press Stop and disconnect the device from the mains.
2. Remove the black clip from the negative terminal/chassis ground.
3. Then remove the red clip from the battery's positive terminal.

### **Charging the battery**

JMP Skan battery chargers support the charging of all conventional battery types: standard lead acid; gel; AGM; EFB; lithium (LiFePO<sub>4</sub>).

1. Connect the device to the battery/vehicle as previously described.
2. Select the CHARGE mode using the function key.
3. Then use Amperage to select the battery capacity and Volt / Batt. to select the battery type.
4. Use the Start/Stop key to start the supply of electricity.
5. Use the Start/Stop key to stop the charging process.

### **The power cable mode "FLASH"**

Extensive diagnostic work and "flashing" of vehicle software result in high loading of the battery. In order to guarantee a safe process which does not damage the battery, the JMP Skan offers a special mode, which supports the 12 V battery with up to 60 A.

1. Connect the device to the battery/vehicle as previously described.
2. Select the FLASH mode using the function key.
3. Then use Amperage to select the required current and Volt / Batt. to select the desired voltage.
4. Use the Start/Stop key to start the supply of electricity.
5. Use the Start/Stop key to stop the supply of electricity.

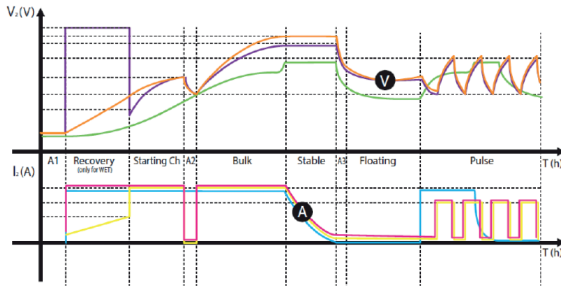
### Battery analysis and error messages:

The device is capable of checking the battery condition before and during the charging process and displaying any connection issues between the charger and the battery to be charged. This is done via a digital display on which the error code is shown. The following displays may appear in case of faults during the charging procedure:

Display	Reason	Solution
<b>Er01</b>	Cable disconnected or short-circuited.	Connect the clips correctly and restart the charging procedure.
	Battery completely short-circuited.	Battery may be defective.
<b>Er02</b>	Battery defective or not recoverable. No charging rate possible after 20 hours of recovery.	Battery likely defective.
<b>Er03</b>	Battery charger overheated. Device overloaded.	Ensure that the ventilation system is not blocked or move the device to a cooler location.
<b>Er04</b>	Voltage error, battery voltage too low.	Use Recovery mode. Only use the device with 12 V batteries. Restart the charging procedure.
	Battery with one or multiple short-circuited elements.	Battery likely defective.
<b>Er05</b>	Battery with too low voltage.	Only use the device with 12 V batteries. Restart the charging procedure.
<b>Er06</b>	Battery with too high charging capacity. Charging procedure never completes.	Use a charger with a higher charging capacity.
<b>Er07 and LED Reverse</b>	The adapter cable clips are not connected to the battery correctly.	Position the clips correctly and restart the charging procedure.
<b>Er08</b>	Output current too high. Current above max. permissible limit.	Battery likely defective.

## Charging cycles:

The charging cycles of our new battery chargers were developed specially for optimisation of the charging of all commercially available batteries. The range of different technologies employed in the batteries commercially available today require different charging characteristics to ensure correct and complete charging. The JMP Skan chargers extend the life of your batteries as they guarantee the right charging cycle for each type of batteries.



1. Analysis "A1"	Voltage test. The next phase starts at above 6.5 V (Recovery: 2.5 V).
2. "Starting Ch" precharging	Charging procedure with constant current until a voltage of 13 V is reached. In Recovery mode only: Prior to the precharging, a higher voltage (15.5 V) is forced and the charging current increased in order to recover the battery capacity.
3. Analysis "A2" (Not applicable to Recovery mode)	Search for possible short circuit. The charger interrupts the supply of electricity for 5 minutes. If the voltage drops below 11.7 V during this time, the charging is cancelled. If not, phase 4 begins. In case of a short-circuited element or sulphatisation (Er02), charging in Recovery mode is recommended.
4. "Bulk" intensive charging	Charges the battery to the defined maximum permissible value.
5. "Stable" constant voltage.	The battery is maintained at the end-of-charge voltage.
6. Analysis "A3"	Final voltage test.
7. "Floating" buffer	The voltage drops to the maintenance level and the charge is complete. The green Full LED lights up.
8. "Pulse" pulse charging cycle	Battery trickle charging via current pulses (for extended periods of time).

## EU declaration of conformity:

We hereby declare on our own responsibility that the product described here corresponds to all the pertinent provisions of the following directives:

- Directive on electromagnetic compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) 2011/65/EU