



DC18SE

GB Automotive charger for connection to 12 V – 24 V DC



Symbols

The followings show the symbols used for the equipment. Be sure that you understand their meaning before use.



- Indoor use only



- Read instruction manual.



- Ready to charge



- Charging



- Charging complete



- Delay charge (Battery cooling or too cold battery)



- Defective battery



- Conditioning



- Cooling abnormality



- Do not short batteries.



- Do not destroy battery by fire.



- Do not expose battery to water or rain.



- Place the charger, power supply cord and battery cartridge where these may not obstruct driving operation. Failure to do so may cause an accident.



- Do not store the battery cartridge in the place where the temperature rises to 50°C or more. Doing so may cause a smoke or ignition.



- During driving operation, do not use the charger or the battery cartridge. Doing so may cause an accident.



Ni-MH
Li-ion

- Always recycle batteries.



- Only for EU countries
Do not dispose of electric equipment or battery pack together with household waste material!
In observance of the European Directives, on Waste Electric and Electronic Equipment and Batteries and Accumulators and Waste Batteries and Accumulators and their implementation in accordance with national laws, electric equipment and batteries and battery pack(s) that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

ENGLISH

WARNING: This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

CAUTION:

1. SAVE THESE INSTRUCTIONS – This manual contains important safety and operating instructions for battery charger.
2. Before using battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
3. CAUTION – To reduce risk of injury, charge only MAKITA rechargeable batteries. Other types of batteries may burst causing personal injury and damage.
4. Non-rechargeable batteries cannot be charged with this battery charger.
5. Use a power source with the voltage specified on the nameplate of the charger.
6. Do not charge the battery cartridge in presence of flammable liquids or gases.
7. Do not expose charger to rain or snow.
8. Never carry charger by cord or yank it to disconnect from receptacle.
9. After charging or before attempting any maintenance or cleaning, unplug the charger from the power source. Pull by plug rather than cord whenever disconnecting charger.
10. Make sure cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
11. Do not operate charger with damaged cord or plug — replace them immediately.
12. Do not operate or disassemble charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified serviceman. Incorrect use or reassembly may result in a risk of electric shock or fire.
13. Do not charge battery cartridge when room temperature is BELOW 10°C (50°F) or ABOVE 40°C (104°F). When the battery temperature is under 0°C (32°F), charging may not start.
14. Do not attempt to use a step-up transformer, an engine generator.
15. Do not allow anything to cover or clog the charger vents.
16. Place the charger, power supply cord and battery cartridge where these may not obstruct driving operation.
17. During driving operation, do not use the charger or the battery cartridge.
18. Do not charge the battery cartridge in the direct sunlight. Do not place the charger or the battery cartridge where these are directly exposed to the sunlight.
19. This charger is intended for use plugging to the automobile cigarette lighter power source with grounded negative pole contact.

Charging

1. Insert the plug of the charger into the automobile cigarette lighter DC socket. Charging light will flash in green color repeatedly.
2. Insert the battery cartridge into charger until it stops adjusting to the guide of charger. Terminal cover of charger can be opened with inserting and closed with pulling out the battery cartridge.
3. When the battery cartridge is inserted, the red charging light will light up.
4. With finish of charge, the charging light will change from red one to green one.
5. Charging time varies by temperature (10°C (50°F) – 40°C (104°F)) that battery cartridge is charged at and conditions of the battery cartridge, such as a battery cartridge which is new or has not been used for a long period of time.
6. After charging, remove the battery cartridge from charger and unplug the charger.

Voltage	9.6 V	12 V	14.4 V	Capacity (Ah)	Charging time (Minutes)
Number of cells	8	10	12		
Ni-MH Battery cartridge	B9017A	—	—	1.7	40
	BH9020/A	—	—	1.8 (IEC61951-2)	40
	—	BH1220/C	BH1420	1.8 (IEC61951-2)	40
	—	—	BH1427	2.5 (IEC61951-2)	55
	BH9033/A	—	—	3.1 (IEC61951-2)	70
	—	BH1233/C	BH1433	3.1 (IEC61951-2)	70

Voltage	14.4 V	18 V	14.4 V	18 V	Capacity (Ah) according to IEC61960	Charging time (Minutes)
Number of cells	4	5	8	10		
Li-ion Battery cartridge	BL1415	BL1815	—	—	1.3	30
	BL1415N/ BL1415NA	BL1815N	—	—	1.5	30
	—	BL1820/ BL1820B	—	—	2.0	45
	—	—	BL1430/ BL1430A/ BL1430B	BL1830/ BL1830B	3.0	60
	—	—	BL1440	BL1840/ BL1840B	4.0	90
	—	—	BL1450	BL1850/ BL1850B	5.0	110
	—	—	BL1460A/ BL1460B	BL1860B	6.0	130

Note:

- It may take twice the above charging time to the maximum because of the optional charging selected according to the temperature (10°C (50°F) – 40°C (104°F)), conditions of battery cartridge and maintenance charge.

NOTE:

- The battery charger is for charging Makita-battery cartridge. Never use it for other purposes or for other manufacturer's batteries.
- When you charge a battery cartridge which is new or has not been used for a long period of time, it may not accept a full charge until after discharging it completely and recharging a couple of times. (Ni-MH battery only)
- If charging light may flash in red color, battery condition is as below and charging may not start.
 - Battery cartridge from just-operated tool or battery cartridge that has been left in a location exposed to direct sunlight for a long time.
 - Battery cartridge that has been left for a long time in a location exposed to cold air.
 When the battery cartridge is too hot, charging will begin after the cooling fan installed in the charger cools the battery cartridge. Charging will begin after the battery cartridge temperature reaches the degree at which charging is possible.
- When charging the battery cartridge with a hot charger, the charging lamp may flash in red. After the charger is cooled, charging starts.
- If the charging light flashes alternately in green and red color, or flashes in green color when the battery cartridge is inserted, a problem exists and charging is not possible. The terminals on the charger are clogged with dust or the Makita battery cartridge is worn out or the battery of automobile is out of order.
- When the battery of automobile works out of order, the charge lamp does not light on even if the charger is plugged into the automobile cigarette lighter socket.
- When the remaining automobile battery capacity gets small, stumble down acceleration pedal and charge the battery cartridge while stumbling down. After completion of charging, be sure to unplug the charger from the automobile socket.
- When charging some battery cartridges successively, the charging time may get longer.

Cooling system

- This charger is equipped with cooling fan for heated battery in order to enable the battery to prove its own performance. Sound of cooling air comes out during cooling, which means no trouble on the charger.
- Yellow light will flash for warning in the following cases.
 - Trouble on cooling fan
 - Incomplete cool down of battery, such as, being clogged with dust
 The battery can be charged in spite of the yellow warning light. But the charging time will be longer than usual in this case. Check the sound of cooling fan, vent on the charger, which can be sometime clogged with dust.
- The cooling system is in order although no sound of cooling fan comes out, if the yellow warning light will not flash.
- Always keep clean the vent on charger and battery for cooling.
- The products should be sent to repair or maintenance, if the yellow warning light will frequently flash.

Conditioning charge

Conditioning charge can extend the life of battery by automatically searching the optimum charging condition for the batteries in every situation.

The battery employed in the following conditions repeatedly requires "conditioning charge" to prevent fast wear out. In that case, yellow light lights up.

1. Recharge of battery with its high temperature
2. Recharge of battery with its low temperature
3. Recharge of full charged battery
4. Over-discharge of battery (continue to discharge battery in spite of down of power.)

The charging time of such battery is longer than usual.



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