

Ni-MH battery BT-53Q

Thank you for purchasing the TOPCON NI-MH battery BT-53Q. For the best performance of the instruments, please read these instructions carefully and keep them in a convenient location for future reference.

DISPLAY FOR SAFE USE

In order to encourage the safe use of products and prevent any danger to the operator and others or damage to properties, important warnings are put on the products and inserted in the instruction manuals.

We suggest that everyone understand the meaning of the following displays and icons before reading the "Safety Cautions" and text.

Display	Meaning
WARNING	Ignoring or disregard of this display may lead to death or serious injury.
CAUTION	Ignoring or disregard of this display may lead to personal injury or physical damage to the instrument.

- Injury refers to hurt, burn, electric shock, etc.
- Physical damage refers to extensive damage to buildings or equipment and furniture.

SAFETY CAUTIONS

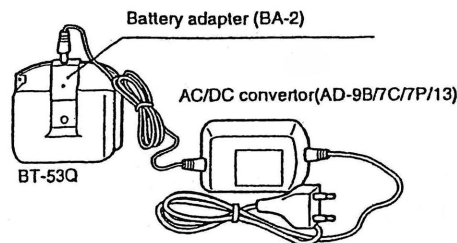
WARNING
• There is a risk of fire, electric shock or physical harm if you attempt to disassemble or repair the instrument yourself. This is only to be carried out by TOPCON or an authorized dealer, only!
• High temperature may cause fire. Do not cover the charger while it is charging.
• Risk of fire or electric shock. Do not use damaged power cable, plug and socket.
• Risk of fire or electric shock. Do not use a wet battery or charger.
• May ignite explosively. Never use an instrument near flammable gas, liquid matter, and do not use in a coal mine.
• Battery can cause explosion or injury. Do not dispose in fire or heat.
• Risk of fire or electric shock. Do not use any power voltage except the one given on manufacturers instructions.
• Battery can cause outbreak of fire. Do not use any other type of charger other than the one specified.
• The short circuit of a battery can cause a fire. Do not short circuit battery when storing it.

CAUTION
Do not connect or disconnect equipment with wet hands, you are at risk of electric shocks if you do!
Do not allow skin or clothing to come into contact with acid from the batteries, if this does occur then wash off with copious amounts of water and seek medical advice.

EXCEPTIONS FROM RESPONSIBILITY
1) The user of this product is expected to follow all operating instructions and make periodic checks of the product's performance.
2) The manufacturer, or its representatives, assumes no responsibility for results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.
3) The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster, (an earthquake, storms, floods etc.). A fire, accident, or an act of a third party and/or a usage any other usual conditions.
4) The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data, an interruption of business etc., caused by using the product or an unusable product.
5) The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage except for explained in the user manual.
6) The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement, or action due to connecting with other products.

CHARGING

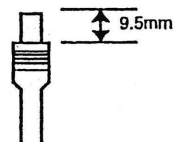
(Charging time : Approx. 9 hours)



- 1 Insert the BA-2 battery adapter into the BT-53Q rechargeable battery.
- 2 Plug the AC/DC converter(AD-9B7C/7P/13) into the BA-2.
- 3 Insert the AC/DC converter power cord into the appropriate AC outlet. LED of the BT-53Q rechargeable battery will light red.
- 4 When charging is complete, the LED will change to green ON. Unplug the BA-2 battery adapter from the BT-53Q.
- 5 Unplug the AC/DC converter power cord from the AC receptacle.

Note:To charge the battery, the following commercial AC/DC converter can be used.

Output: DC12V 1A
 Inside diameter: ϕ 2.1mm
 Outside diameter: ϕ 5.5mm



Plug of AC/DC converter

- Note:**
- 1) Recharging should take place in a room with an ambient temperature range of 10°C to 40°C (50°F to 104°F).
 - 2) Exceeding the specified charging time may shorten the life of the battery and should be avoided if possible.
 - 3) The battery source will discharge when stored and should be checked before using with instrument.
 - 4) Be sure to charge stored battery source every 3 or 4 months and store in a place at 30°C and below when it will not used for a long period. If you allow the battery to be completely discharged, it will have an effect on the overall performance for proper charging in the future.

The LED of BT-53Q will indicate charging status:

- Red ON :Charging.
- Green ON :Charging completed.
- Green flashing :Internal error of BT-53Q rechargeable battery
- Red flashing :BT-53Q rechargeable battery protection feature is working automatically. The instrument can be used in this case.

Automatic protection feature; In case of overcharge or high or low temperature state exceeding charging range, charging will be stopped or changed to protect battery.

Charging function while using DC 12V external battery
 This function is useful when the internal battery BT-53Q is running out while working. Using the instrument with DC-12V external battery in ambient temperature [+10°C to +40°C (+50°F to 104°F)], the internal battery BT-53Q can be recharged automatically.

Note:When disconnect the DC-12V external battery while working, the power source will change to internal battery BT-53Q automatically.