



Safety Manual

BLTU-4C

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MODIFICATIONS

Revision	Date	Modified by	Changes / ECR
1	5 th Dec 2024	G Prisco	Initial Release

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MK Test Systems Ltd reserves the right to revise and improve its products as it sees fit.

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This safety manual is provided to the end user to understand the safety precautions and safe use of the BLTU-4C and its associated components.

The safety manual does not include detailed information regarding the operation of the BLTU-4C.

For operating instructions, download the latest release from
www.mktest.com.

For PC software, download the latest release from www.mktest.com.

The BLTU-4C shall not be dismantled, serviced, repaired by untrained personnel.

If the BLTU-4C is faulty or has a suspect fault, then the BLTU-4C should be placed in quarantine. It is advised that the unit is investigated by trained personnel only.

SAFETY INSTRUCTIONS

The following safety precautions apply to both operators and maintenance personnel of the product and must be followed and understood during operation, service and repair of the BLTU-4C product.

1 BEFORE FIRST USE



CAUTION

- Check that the cables have been shipped and supplied in good condition.
- Report to MK Test Systems Ltd immediately if you suspect that the BLTU-4C has been damaged during the delivery of the BLTU-4C or any of its accessories.
- Check that all parts are present and that all labelling on the BLTU-4C and cables are clearly readable.
- Cross check the contents with the delivery note supplied with the unit and report to MK Test Systems Ltd immediately if the contents do not match the delivery note.
- The operator manual must be read to understand the intended use of the BLTU-4C and its accessories.
- It is the responsibility of the end user to ensure that the BLTU-4C is used appropriately. MK Test Systems Ltd does not accept any responsibility if any of the individual parts are operated outside of their intended use.
- The machine plate and associated labelling conform to EU and UK directives and Statutory Requirements. The BLTU-4C must NOT be used if the labelling is not present or if any of the information on the label cannot be read clearly.

2 LABELLING



INFORMATION

- Contact MK Test Systems immediately if any of the label plates are illegible to read, damaged or not present.

3 APPLICATION OF CALIBRATION LABELS



INFORMATION

- MK Test Systems allow the use of stickers or labels to be applied to the unit to indicate that the BLTU-4C has been calibrated.

Do not place stickers or labels over the BLTU-4C machine plate

4 BLTU-4C CONNECTIONS AND WORKING VOLTAGES



INFORMATION

- The BLTU-4C is a battery-operated device and does not require mains voltage for operation.
- The BLTU-4C outputs an AC test signal at 1kHz with a maximum working voltage of 200Vrms.
- The BLTU-4C Loop Cables are not battery powered and are required to be plugged into the BLTU-4C for operation.
- The BLTU-4C Joint Cables are not battery powered and are required to be plugged into the BLTU-4C for operation.
- The BLTU-4C Data connection may only be used with the MK Test Systems associated data cable.
- The working voltage of the USB connection is 5V.
- The working voltage of the Ethernet connection is magnetically coupled according to IEEE 802.3 and has a working voltage of 12V
- The Ethernet connection does not support PoE (Power over Ethernet)

5 LIVE MAINS WORKING



WARNING

Live working is not permitted.

The BLTU-4C is NOT designed to measure loops in live mains applications.

The BLTU-4C loop, joint or bond probe cables are not designed to measure any live mains connections. If accidental or intentional connections to live mains parts are made, then the BLTU-4C must be labelled (red-tagged) as DO NOT USE and then must be returned to MK Test Systems Ltd for investigation.

6 PARTS

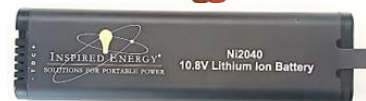


INFORMATION

Part Number
BLR-1002-00



Battery



**External Battery
Charger and PSU**



Data cable



Loop Cable
Part Number
BLR-3201-01



Bond positive cable
Part Number
BLR-5201-11



Bond negative cable
Part Number
BLR-5201-21



7 INSPECTION BEFORE USE



WARNING

- The BLTU-4C must be visually inspected to check for signs of damage.
- The cables should be visually inspected for signs of damage. Any kinks or splits in the cable must be identified, then the cable labelled as DO NOT USE.
- The cable glands are to be inspected for wear and tear. Any damage should be identified, then the cable labelled as DO NOT USE.
- All connectors should be inspected for any ingress build up that may affect the safety or performance of the instrumentation.
- If it has been identified that the BLTU-4C enclosure has been modified in any way, then the BLTU-4C must be labelled as DO NOT USE. The BLTU-4C must be returned to MK Test Systems Ltd for repair.

DO NOT OPERATE THE INSTRUMENT IF DAMAGED

- If the BLTU-4C is damaged, appears to be damaged, or if there is any doubt relating to the safe operation of the BLTU-4C, the BLTU-4C is to be moved into a safe area immediately and turned off. Remove the batteries and any cables and label it as DO NOT USE. The BLTU-4C must be investigated and repaired by trained personnel only.

8 SAFE WORKING PRACTICES



INFORMATION

The following conditions relate to safe installation and/or use of the equipment.

- The BLTU-4C shall be operated in dry areas only.
- The BLTU-4C shall only be used with loop couplers, bond probes or bond clamps supplied by MK Test Systems Ltd.
- The instrument shall only be powered by Inspiron Energy Ni2040 batteries.
- External power shall only be supplied from an 12V power supply provided by MK Test Systems Ltd. and marked for use with the BLTU-4C equipment.
- Do not pull the BLTU-4C by the power cord, loop/joint or data cables.
- During operation, ensure that the BLTU-4C or cables are not creating a trip hazard.
- During operation, the loop cables must not be pulled away from the UUT that will force pressure on the loop couplers or the UUT.
- During operation, provide enough cable relief to ensure that joint (if installed), bond and high resistance measurements can be taken with ease.
- Do not place any heavy objects on top of the BLTU-4C.
- Do not operate the BLTU-4C if it is not being held securely. The BLTU-4C is designed to be operated on its bottom, facing up.
- Do not operate the BLTU-4C if it has been exposed to any corrosive substance.

Do not operate the BLTU-4C in the following environments:

- In relative humidity conditions outside of the BLTU-4C's specification.
- In an environment outside of the BLTU-4C's temperature range.
- In potentially hazardous areas.
- In the presence of noxious or corrosive vapour or corrosive chemicals. A risk assessment shall be carried out by the operator to identify if any vapour is present. If any vapour or substance is present that may compromise the construction of the BLTU-4C or the general safety to the operator or others, then the BLTU-4C must be removed from the area.

9 BLTU-4C MATERIAL COMPOSITION



INFORMATION

ITEM		MATERIAL
BLTU-4C Enclosure	Enclosure	Polypropylene
	Battery compartment and lid	Nylon 6
	Machine plate	Laminate
	Label plates	Clear acrylic
	Measurement and data cable connectors	Laminate
Loop Cable	Cable (Circular connector to in-line controller)	PVC
	Cable (In-line controller to couplers)	PVC
	In-Line controller plastics	Polycarbonate, Static Dissipative
	Probe buttons	Polycarbonate
	Probe lens	Polycarbonate
Joint and Bond cables	Cables	PVC
	Joint 3-way cable splitter	Polycarbonate, Static Dissipative
	Probes	Polycarbonate, Static Dissipative
	Probe buttons	Polycarbonate
	Probe lens	Polycarbonate

10 CLEANING



INFORMATION

Do not clean the BLTU-4C, its switches or connectors with any abrasives, lubricants, acids/bases or other such chemicals. Only use a damp lint free cloth.

11 DISPOSAL



WARNING

If the BLTU-4C has been damaged and is beyond repair, then the BLTU-4C should be classed as industrial electrical waste and disposed of appropriately.

12 TAMPERING



WARNING

The BLTU-4C enclosure covers must not be removed by untrained personnel. Component replacement (covers or internal parts) is to be performed by qualified personnel with the relevant maintenance training.

- Do not substitute parts that are not approved by MK Test Systems Ltd.
- Do not modify the BLTU-4C in any way.
- Do not remove any product labelling.
- Do not affix any labelling that has fixing accessories which may cause damage to the BLTU-4C or cables.