BK PRECISION

Instruction Manual

Model 308A Digital Insulation & Continuity Meter

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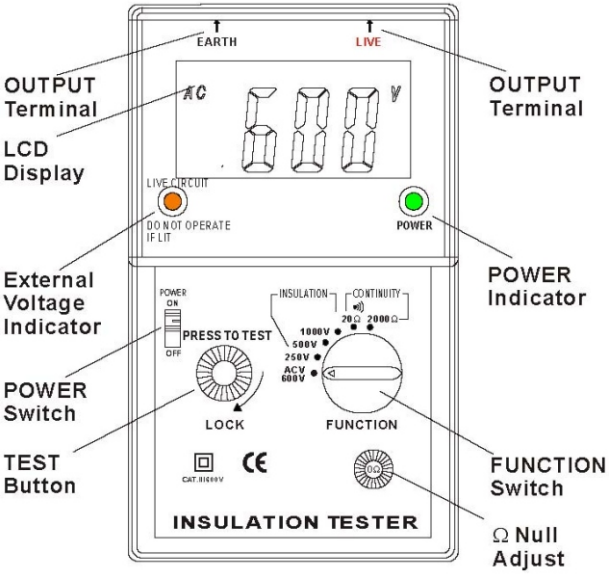
INSTRUMENT LAYOUT



INTRODUCTION

NOTE

This meter has been designed and tested according to IEC publication 348 , safety requirements for electronic measuring apparatus , IEC-1010 (EN 61010) and other safety standards . Follow all warnings to ensure safe operation .

WARNING

READ "SAFETY NOTES" (NEXT PAGE)
BEFORE USING THE METER .

SAFETY NOTES

Read the following safety information carefully before attempting to operate or service the meter .

Use the meter only as specified in this manual ; otherwise the protection provided by the meter may be impaired .

Rated environmental conditions :

(1). Indoor use .

(2). Installation Category Ⅲ .

(3). Pollution Degree 2 .

(4). Altitude up to 2000 Meter .

(5). Relative Humidity 80% Max.

(6). Ambient Temperature 0~40°C .

Observe the international electrical symbols listed below .

Meter is protected throughout by double insulation or reinforced insulation .

Warning ! Risk of electric shock .

Caution ! Refer to this manual before using the meter .

Alternating current .

FEATURES

3 1/2 Digit Insulation Tester .
68mm(2.677")x34mm(1.33") large LCD display .
Three Insulation test voltage 250V,500V,1000V .
External voltage warning indication .
Automatic circuit discharge .
Test Insulation at rated voltage into a 1 mA load .
200 mA continuity short circuit test current .
AC voltage measurement .
Fuse protection .
Meet IEC 1010 CAT. Ⅲ, BS 16th edition .

MEASURING METHODS

Operation caution

Observe all safety precautions when the FUNCTION switch is set to either the 200M (250,500V) or the 2000MΩ(1000V) position . Connect the meter test leads to the circuit under test before operating the TEST switch . Do not touch the clip ends of the test leads when the TEST switch is pressed .

Some electrical equipment , especially cables , may retain an electrical charge when disconnected from the line . It is good practice to discharge such equipment with grounding straps , or other suitable devices , before touching or making connections . The meter automatically discharge the test circuits when the spring loaded TEST switch is released .

Important

Remove all power to the circuit under test when making resistance measurements . If any voltage is present in the test circuit the red on the meter scale plate will light .

Immediately disconnect test leads and turn off power to test circuit .

Function switch :

The FUNCTION switch is used to select the range , or function desired .

Test switch :

The TEST switch is normally OFF , spring loaded , momentary action switch which "turn on" the meter. the momentary action is a safety feature .

The test voltage generated by the meter is automatically discharged when the TEST switch is released .

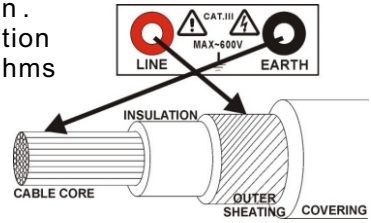
Always check the following before testing :
The "Battery Low" indicator is not showing.
There is no visual damage to the instrument or test leads.
Test Lead Continuity:
Select the CONTINUITY function and 20W range.
Short the test leads together.
An over-range ("1") indication will mean that the leads are faulty or instrument fuse is blown. (See "Fuse Replacement" section)
Insulation Resistance Testing:

Warning: Insulation tests should be conducted on circuits that are de-energised . Ensure circuits are not live before commencing testing.

◎ Select the required test voltage (250V , 500V or 1000V) by rotating the function switch .

◎ Attach the test leads to the instrument and to the circuit to be tested (see connect diagram) . If the "LIVE CIRCUIT" is lit , do not press the test button and disconnect the instrument from the circuit . The circuit is live and should be de -energised before further testing .

◎ Press the test button . The value of insulation resistance in megohms will be displayed .



Connect Diagram

Caution: Never turn the function dial whilst the button is depressed. This may damage the instrument. Never touch the circuit under test during insulation testing.

When testing is complete ensure that the test buttonis released before the test leads are disconnected .

This is because the system may be charged up and it must be allowed to discharge through the tester's Internal discharge resistor .

Continuity testing (Resistance tests) :

Warning: Ensure circuit are not live before commencing testing .

◎ Select the 20Ω range by rotating the range selector and connect the test leads to the instrument .

Short the tips of the leads . Press and hold down the test button by twisting it a quarter turn clockwise .

The display will show the resistance of the test leads . Adjust the Ω ZERO control to set the reading of zero .

◎ Connect the test leads to the circuit under test . Ensure the circuit is not live by checking that the live circuit indicator does not lit .

Read the value of resistance from the LCD .

AC voltage test :

Set FUNCTION switch to ACV . Connect test leads to circuit being measured , Press TEST button and read the value of voltage form the LCD.

SPECIFICATIONS

test leads.

Test Lead Continuity:

S

Insulation resistance

Measuring range :

◎0-200MΩ(250V,500V DC ±10%)

Resolution : 1 count / 100KΩ

◎0-2000MΩ(1000V DC ±10%)

Resolution : 1 count / 1MΩ

Accuracy : ±1.5% rdg. ±5dgt. (200MΩ range)

±3%rdg. ±3dgt. (under 1GΩ/ 2000MΩ)

±5%rdg. ±5dgt. (under 2GΩ/2000MΩ)

Output current :

1 mA DC min. at 0.25 MΩ(250V range)

1 mA DC min. at 0.5 MΩ(500V range)

1 mA DC min. at 1 MΩ(1000V range)

Power consumption : Max. consumption current approx. 250mA .

AC voltage

Range : 0-600V.

Resolution : 1V.

Accuracy : ±1.5%rdg. ±3dgt.

Line frequency range : 40 -120 Hz .

Continuity

◎Ohm range : 0-20Ω

Resolution : 0.01Ω

Accuracy : ±1.5%rdg. ±5dgt.

◎Ohm range : 0-2000Ω

Resolution : 1Ω

Accuracy : ±1.5%rdg. ±3dgt.

Open circuit terminal voltage : 4 V DC min.
Short circuit terminal current : 210 mA DC min.
Power consumption: Max. consumption current approximately 160mA
Buzzer sound below : under 10Ω (on 20Ω range)
Withstand : Meet IEC-1010 safety requirements Category Ⅲ .
Dimension : 170×165×92 mm (6.7×6.5×3.6 inch), with housing front cover.
Weight : 1.04 kg (battery included)
Standard Accessories :

Batteries 1.5V , size AA (R6)	8 pieces
Test Leads	1 pair
Fuse 0.5A , 250V	1 piece
Instruction Manual	1 vol.

MAINTENANCE

Caution: Always disconnect the test leads from the instrument before attempting battery or replacement .

Batteries replacement :

Please replace batteries when the "Battery Low" indicator was shown on the LCD.

Disconnect the test leads from the instrument, remove the battery compartment lid and the batteries.

Replace with eight 1.5V AA (R6) batteries, taking care to observe correct polarity. Alkaline batteries are recommended.

Replace the battery compartment lid.

Fuse Replacement :

Open the battery compartment lid. Remove the fuse cove and the old fuse, and replace with the new one.

Replace the fuse cover and screw the battery compartment lid before using the tester.

Cleaning and storage :

Periodically wipe the case with a damp cloth and detergent ; do not use abrasives or solvents .

If the meter is not to be used for periods of longer than 60 days, remove the batteries and store Them separately .

WARNING

To avoid electrical shock or damage to the meter , do not get water inside the case .

Limited One-year Warranty

B&K Precision warrants to the original purchaser that its products and the component parts thereof, will be free from defects in workmanship and materials for a period of one year from date of purchase from an authorized B&K Precision distributor.

B&K Precision will, without charge, repair or replace, at its option, defective product or component parts. Returned product must be accompanied by proof of the purchase date in the form of a sales receipt.

To obtain warranty coverage in the U.S.A., this product must be registered by completing the warranty registration form on www.bkprecision.com within fifteen (15) days of purchase.

Exclusions: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. The warranty is void if the serial number is altered, defaced or removed.

B&K Precision shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages. So the above limitation or exclusion may not apply to you.

This warranty gives you specific rights and you may have other rights, which vary from state-to-state.

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Service Information

Warranty Service: Please return the product in the original packaging with proof of purchase to the address below. Clearly state in writing the performance problem and return any leads, probes, connectors and accessories that you are using with the device.

Non-Warranty Service: Return the product in the original packaging to the address below. Clearly state in writing the performance problem and return any leads, probes, connectors and accessories that you are using with the device. Customers not on open account must include payment in the form of a money order or credit card. For the most current repair charges please visit www.bkprecision.com and click on "service/repair".

Return all merchandise to B&K Precision with pre-paid shipping. The flat-rate repair charge for Non-Warranty Service **does not** include return shipping. Return shipping to locations in North American is included for Warranty Service only. For overnight shipments and non-North American shipping fees please contact B&K Precision.

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Include with the returned instrument your complete return shipping address, contact name, phone

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