



AEMC INSTRUMENTS BR04 Resistance Decade Box User Manual

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Warning

Only use these decade boxes on Category II installations for voltages that do not exceed 150V in relation to the earth.

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International Electrical Symbols



This symbol on the instrument indicates a WARNING and that the operator must refer to the user manual for instructions before operating the instrument. In this manual, the symbol preceding instructions indicates that if the instructions are not followed, bodily injury, installation/sample and product damage may result.



Ground (Earth) Terminal



Protective Ground (Earth)

Receiving Your Shipment

Make sure that the contents shipped are consistent with the packing list. Notify your distributor of any missing items. If the equipment appears to be damaged, file a claim immediately with the carrier and notify your distributor at once, giving a detailed description of any damage. Save the damaged packing container to substantiate your claim.

Ordering Information

- **Decade Resistance Box Model BR04**Cat. #2131.22
- **Decade Resistance Box Model BR05**Cat. #2131.23
- **Decade Resistance Box Model BR06**Cat. #2131.24
- **Decade Resistance Box Model BR07**Cat. #2131.25
- **Decade Capacitance Box Model BC05**Cat. #2131.26

All decade boxes are shipped with a 9.8" (25cm) safety lead with Ø 4mm connectors

Replacement Parts:

Safety lead with connectors Ø 4mm, length 9.8" (25cm)Cat. #2131.35

Description

Set of:

4 Resistance Boxes:

- **Model BR04:** 4 decades – 1Ω to $11.11k\Omega$
- **Model BR05:** 5 decades – 1Ω to $111.11k\Omega$
- **Model BR06:** 6 decades – 1Ω to $1.11111M\Omega$
- **Model BR07:** 7 decades – 1Ω to $11.11111M\Omega$

covering all the resistance values from 1Ω to $11.11111M\Omega$

1 Capacitance Box:

Model BC05: 5 decades – $0.1nF$ to $11.111\mu F$

covering all the capacitance values from 0 to $11.111\mu F$

These decade boxes are built into a metal bench-top box. They are used for testing and calibration.

The main function of these decade boxes is to create a resistance, capacitance or inductance with a specific value by using a combination of the rotary decade switches.

They are equipped with $\varnothing 4mm$ safety terminals for connection.

For safe use, they comply with standard EN 61010-1 (2001).

Operation

The ground (earth) terminal must be connected to a protective ground (earth) before taking any measurements.

Do not inject any voltage measurements greater than $150V$ to ground (earth) and comply with the maximum acceptable current for each decade switch.

Resistance Boxes

Models BR04 – BR05 – BR06 – BR07

- Resistance boxes: 4, 5, 6 or 7 decades covering a range from 1Ω to $11.11111M\Omega$
- 11-position switches
- Output on safety sockets $\varnothing 4mm$
- Accuracy: $1\% \pm 10mW$ on all ranges



Connect the ground (earth) terminal to a protective ground (earth) before taking any measurements. Do not forget the resistance of the measurement leads in the overall accuracy, particularly on the first decade.

Types	Multiplying factor in W						
	1	10	100	1k	10k	100k	1M
BR04	+	+	+	+			
BR05	+	+	+	+	+		
BR06	+	+	+	+	+	+	
BR07	+	+	+	+	+	+	+
Accuracy	1%±10mW	1%±10mW	1%±10mW	1%±10mW	1%±10mW	1%±10mW	1%±10mW
Max current mADC	700mA	200mA	70mA	20mA	7mA	1mA	0.1mA

Capacitance Decade Box Model BC05

- Capacitance box with 5 decades; 11 position switches
- Total capacitance 11.111μF
- Very high insulation
- Output on safety sockets Ø 4mm
- The residual capacitance is approximately 25 pF
- Accuracy: 3% on all the ranges (residual capacitance deducted)

Type	Multiplying factor in nF				
	0.1	1	10	100	1k
BC05	+	+	+	+	+



Connect the ground (earth) terminal to a protective ground (earth) before taking any measurements. Comply with the maximum operating voltage of 300VDC or 230VAC at 50Hz and the voltage of 150V maximum to ground (earth).

After each use, discharge the voltage stored by the capacitors into a resistance with an appropriate value.

General Specifications

- **Operating Temperature:** 14° to 131°F (-10° to + 55°C)
- **Storage Temperature:** -40° to 158°F (-40° to + 70°C)
- **Relative Humidity:** 20% < RH < 96%
- **Altitude:** 2000m
- **Dimensions – BR04/BR05/BC05:** 12 x 3.4 x 3" (310 x 86 x 76mm)
- **Weight – BR04/BR05/BC05:** 2.2 lbs (1kg)
- **Dimensions – BR06/BR07:** 16 x 3.4 x 3" (410 x 86 x 76mm)
- **Weight – BR06/BR07:** 3 lbs (1.4kg)

- **Watertightness (as per EN 60529 Ed. 92):** Protection index IP 40
- **Rated Voltage:** 150V

Installation Category II – Pollution level 2

Maintenance



The decade boxes must be disconnected from any electrical source before cleaning or maintenance.

For maintenance, only use the specified factory spare parts. The manufacturer cannot be held responsible for any accidents that occur due to repairs done outside its after-sales department or certified repair agents.

To clean the console, use a cloth with a little soapy water. Never use abrasive products or solvents. Rinse with a damp cloth and then wipe quickly with a dry cloth or pulsed air.

Repair and Calibration

To ensure that your instrument meets factory specifications, we recommend that it be scheduled back to our factory Service Center at one-year intervals for recalibration, or as required by other standards or internal procedures.

For instrument repair and calibration:

You must contact our Service Center for a Customer Service Authorization

Number (CSA#). This will ensure that when your instrument arrives, it will be tracked and processed promptly. Please write the CSA# on the outside of the shipping container. If the instrument is returned for calibration, we need to know if you want a standard calibration, or a calibration traceable to N.I.S.T. (Includes calibration certificate plus recorded calibration data).

Ship To: Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments 15 Faraday Drive

Dover, NH 03820 USA

Phone: (800) 945-2362 (Ext. 360) (603) 749-6434 (Ext. 360)

Fax: (603) 742-2346 or (603) 749-6309

E-mail: repair@aemc.com

(Or contact your authorized distributor)

Costs for repair, standard calibration, and calibration traceable to N.I.S.T. are available.

NOTE: You must obtain a CSA# before returning any instrument.

Technical and Sales Assistance

If you are experiencing any technical problems, or require any assistance with the proper operation or application of your instrument, please call, mail, fax or e-mail our technical support team:

Contact: Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments

Phone: (800) 945-2362 (Ext. 351) (603) 749-6434 (Ext. 351)

Fax: (603) 742-2346

E-mail: techsupport@aemc.com

Limited Warranty

The Decade Boxes are warranted to the owner for a period of 2 years from the date of original purchase against defects in manufacture. This limited warranty is given by AEMC®

Instruments, not by the distributor from whom it was purchased. This warranty is void if the unit has been tampered with, abused or if the defect is related to service not performed by AEMC® Instruments.

For full and detailed warranty coverage, please read the Warranty Coverage Information, which is attached to the Warranty Registration Card (if enclosed) or is available at www.aemc.com. Please keep the Warranty Coverage Information with your records. What AEMC®

Instruments will do:

If a malfunction occurs within the warranty period, you may return the instrument to us for repair, provided we have your warranty registration information on file or a proof of purchase. AEMC® Instruments will, at its option, repair or replace the faulty material.

REGISTER ONLINE AT: www.aemc.com

Warranty Repairs

What you must do to return an Instrument for Warranty Repair:

First, request a Customer Service Authorization Number (CSA#) by phone or by fax from our Service Department (see address below), then return the instrument along with the signed CSA Form. Please write the CSA# on the outside of the shipping container. Return the instrument, postage or shipment pre-paid to:

Ship To:

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments 15 Faraday Drive • Dover, NH 03820 USA

Phone: (800) 945-2362 (Ext. 360) (603) 749-6434 (Ext. 360)

Fax: (603) 742-2346 or (603) 749-6309

E-mail: repair@aemc.com

Caution: To protect yourself against in-transit loss, we recommend you insure your returned material.

NOTE: You must obtain a CSA# before returning any instrument

Statement of Compliance

Chauvin Arnoux®, Inc. d.b.a. AEMC® Instruments certifies that this instrument has been calibrated using standards and instruments traceable to international standards.

We guarantee that at the time of shipping your instrument has met its published specifications.

An NIST traceable certificate may be requested at the time of purchase, or obtained by returning the instrument to our repair and calibration facility, for a nominal charge.

The recommended calibration interval for this instrument is 12 months and begins on the date of receipt by the customer. For recalibration, please use our calibration services. Refer to our repair and calibration section at www.aemc.com.

Serial #: _____

Catalog #: 2131.22/2131.23/2131.24/2131.25/2131.26

Model #: BR04/BR05/BR06/BR07/BC05

Please fill in the appropriate date as indicated:

Date Received: _____

Date Calibration Due: _____

Chauvin Arnoux®, Inc. d.b.a AEMC® Instruments

www.aemc.com

Decade Box Models BR04 / BR05 / BR06 / BR07 / BC05


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www.aemc.com



Documents / Resources

 <p>BR04 BR05 BR06 BR07 BC05</p>	<p>AEMC INSTRUMENTS BR04 Resistance Decade Box [pdf] User Manual BR04, BR05, BR06, BR07, BC05, BR04 Resistance Decade Box, Resistance Decade Box, Decade Box, Box</p>
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