CIRCUIT BREAKER ANALYZERS

CBA-32P – CBA-32D – MICRO CBA-32P

APPLICATION NOTE AN-4E:
CALIBRATION PROCEDURE FOR THE CBA-32P

Abstract:

This document contains the procedure for calibrating, in the lab or in the field, a Zensol CBA-32P analyzer.

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1. Tools and material required

- **Calibrated multimeter (voltmeter, ammeter, ohmmeter):**

  Date calibrated :

  Company that calibrated the instrument :

- **1 A DC current source (or 500 mA, or 250 mA).**
- **Zensol SIM-CB6 or autodiag.htm.**

Note: it is possible to use a multimeter like the one shown below.

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2. Verification and calibration procedure for the external analog inputs:

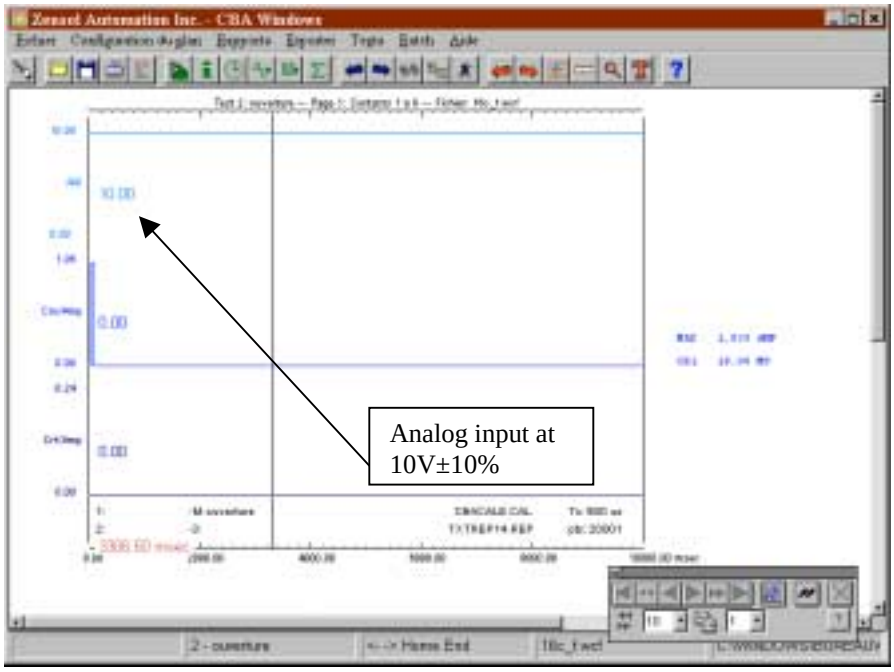
1. **Functional tests:**

   Use the Zensol SIM CB6 or autodiag.htm.

2. **Checking the internal 10 VDC source:**

   With a calibrated voltmeter, check the voltage between the 10V and Ground terminals.

   Increase the test duration to 10 seconds in CBA Win©. Connect a cable to one of the analog inputs. Short the Signal and 10V leads together and perform a test in CBA Win©. Check in the graphic reports, with the Examine tool, that the analog input signal where the cable is connected is indeed at 10 volts.



3. **Checking the calibration of the current inputs on all six ranges.**

Ranges: 0 / 5A, -5 / 5A, 0 / 10A, -10 / 10A, 0 / 20A, -20 / 20A.

Set the contactors at 2 seconds, the test duration at 4 seconds, and inject a 1 Amp current with the previously tested current source. Check on the graphic report, in CBA Win©, that the current is indeed 1 ampere.

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3. Resistance calibration checking procedure for the contact inputs:

Put a resistor between Contact 1 and Common, and perform a Close-Open test, and then check against the values in the table below.

Check the second contact in the same manner by placing the resister between Contact 2 and Common.

If the observed results are incorrect, look for the value (with different resistors) at which the states are observed. Note these values, for each contact input, in Table 4.6.

Resistor used	0 Ω (short circuit)	30 Ω	2000 Ω (CBA-32P-8C/16C/24C)	2700 Ω (Micro-CBA)	Infinite (no cable connected)
State read	**1**	**0.5**			**0**

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Operator's name : _____ **Date :**_____

Serial number : _____

4. Calibration results tables

4.1 Test Link	100/100 :

4.2 Contact test table:

Contacts	C1	C2	C3	C4	C5	C6	C7	C8
Closed 1								
Resistive 0.5								
Open 0								
Contacts	C9	C10	C11	C12	C13	C14	C15	C16
1								
0.5								
0								
Contacts	C17	C18	C19	C20	C21	C22	C23	C24
1								
0.5								
0								

4.3 Analog input test at 10V and 0V:

	A3	A4	A5	A6	A7	A8
10V						
0V						

4.4 LED Check: Close□ Open□ Measure□ Power□

4.5 Current input calibration:

Currents : Injects 1A or other and indicate the result	close			open		
	Injected	read	0 read	Injected	Read	0 Read
0/05A						
-5/05A						
0/10A						
-10/10A						
0/20A						
-20/20A						

4.6 Contact input resistance calibration:

Resistive state result	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24

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