

Data Sheet 5.68-1/5

Reference Impulse Calibrator, Type MIC 330

General

The Reference Impulse Calibrator MIC 330 can be used for calibration of measurement equipment such as digital recorders, peak voltmeters and similar. The MIC 330 is a powerful calibration unit of the highest precision class.

The reference impulse calibrator MIC 330 is a modular system to perform tests on digital recorders for the measurement of high-impulse voltages and impulse currents. According to IEC 61083-1 (IEEE1122) and IEC 60060 (IEEE4) the calibration, performance check or performance test of the measuring ranges of the digital impulse voltage measuring system may be performed either by the pulse calibration method or alternatively by a separate calibration of voltage with a STEP voltage calibration.

The MIC 330 is controlled by a computer via USB bus. It is possible to use the MS Windows® software ICS (Impulse Calibrator Software) to control the MIC 330. This allows an easy handling.

In the digital recorder software application IAS-CAL (Impulse Analyzer Software - Recorder Calibration) an interface is integrated for the automatic control of the MIC 330. Thus, it is possible to perform a quick fully automatic calibration.

Hardware

MIC 330 is a calibrator with an output voltage of up to 330 V. It is possible to calibrate all measuring ranges of the digital recorder that are used during measurement. The basic device consists of the voltage source and the control unit. Furthermore, lightning impulse (LI), switching impulse (SI) and chopped lightning impulse (LIC) heads are available. Other pulse shapes are available on request.

For technical data and measuring uncertainties please refer to the table 2.



Figure 1: Basic unit MIC 330



Figure 2: Calibrator head

Software

There are two software packages available for calibrator controlling:

ICS is an independent program to control the calibrator MIC 330. It is possible to integrate the MIC 330 in special customer programs using a .NET interface.

IAS-CAL is a software module for recorder calibration according to the standard IEC 61083-1.

The calibration unit MIC 330 is controlled automatically by the software. The amplifier ranges, the input divider, the impulse shape and the number of records will be selected. After the automatic calibration procedure the calibration report can be printed directly (Data Sheet 5.62-3).

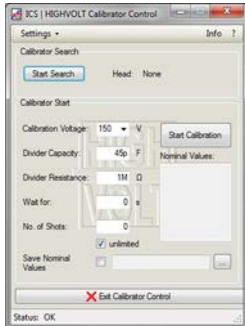


Figure 3: ICS Software

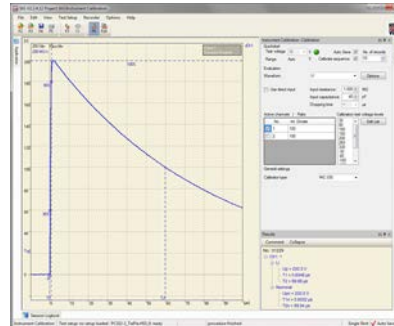


Figure 4: IAS-CAL Software

Table 1: Main parameters - Basic unit

Type	Power supply		DC output	
	Voltage	Frequency	Voltage	Standard deviation
	V	Hz	V	%
MIC 330	115 ... 240	50 ... 60	1 ... 330	0.1

Table 2: Main parameters - Heads

Type	Impulse			Peak		Time	
	Wave shape	Voltage	Chopping time	Standard deviation	Expanded uncertainty	Standard deviation	Expanded uncertainty
	μs	V	μs	%	%	%	%
MICH - STEP	STEP ¹⁾	1 ... 330		±0.2	±0.5		
MICH - LI 0.84/60	0.84/60	1 ... 330		±0.2	±0.6	±0.3	±1.6
MICH - LIC/LI 0.84/60	0.84/60/LIC	30 ... 310	0.5 ... 6	±0.2	±0.8	±0.5	±1.7
MICH - LI 1.56/60	1.56/60	1 ... 330		±0.2	±0.6	±0.3	±1.6
MICH - SI 20/4000	20/4000	1 ... 330		±0.2	±0.6	±0.2	±1.7
MICH - SI 250/2500	250/2500	1 ... 330		±0.2	±0.6	±0.2	±1.7

¹⁾ falling edge

Table 3: Dimensions and connectors

Type	Length x Width x Height (approx.)	Weight (approx.)	Connector
	mm	kg	
MIC 330	250 x 300 x 150	3	
MICH - STEP	30 x 65 x 115	0.15	BNC
MICH - LI 0.84/60	30 x 65 x 115	0.15	BNC
MICH - LIC/LI 0.84/60	30 x 65 x 115	0.15	BNC
MICH - LI 1.56/60	30 x 65 x 115	0.15	BNC
MICH - SI 20/4000	30 x 65 x 115	0.15	BNC
MICH - SI 250/2500	30 x 65 x 115	0.15	BNC