

Data Sheet 5.61-1/1¹⁾

Main Software Package for Impulse Test, Type HiRES IAS

Application

The Software Package HiRES IAS is used for impulse voltage and current measurements with our HiRES measuring system. It enables both, the very easy use (without long study of any instruction manual) and the reliable operation of the recorder. The software package is based on the operating system MS Windows® with the software package MS Office®, both in the latest version. The HiRES IAS software has a modular structure, which enables the separate selection of each module depending on customer applications. The IAS software runs on the industrial PC of the HiRES measuring system. The software guarantees a very user-friendly and reliable operation.

Parameter settings

Whereas the left hand side of the display shows the measurements, the right hand side is provided to set the measuring parameters such as peak voltage, polarity, time deflection, and undershoot in one setup dialog (see Fig. 1). The software controls the related internal functions.

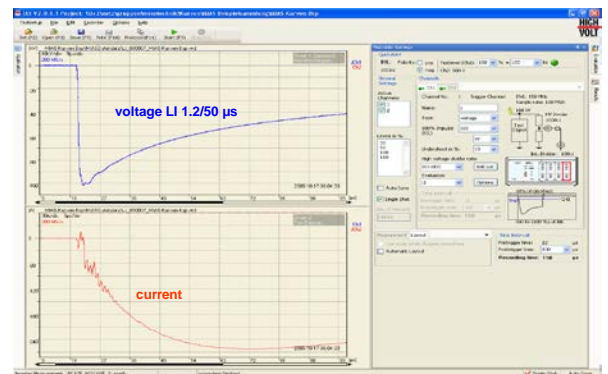


Figure 1: User interface

Quick start and parameter display

In case identical test routines are applied, short cuts and quick start functions on the upper side of the display allow a very fast impulse measuring routine. Evaluated parameters are shown on the right hand side of the display.

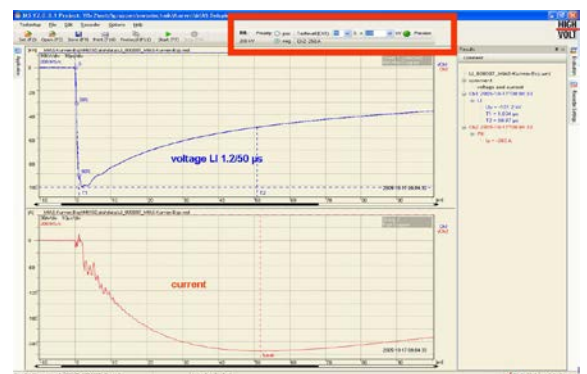


Figure 2: User interface with quick start menu

¹⁾ The prior version of the Data Sheet was 5.61/3.

Impulse recording and handling recorded curves

Recorded curves (one per channel of the reactor) of different sampling rates and deflections can be displayed or printed in one coordinate system without discontinuities. Even raw data of different recorders can be handled and evaluated by:

- Measurement by different cursors
- Zooming of horizontal or vertical deflection ranges, windows or simultaneous zooming (Fig. 3)
- Free configuration of position and dimensions of coordinate system
- Copying, inversion or deletion of recorded curves

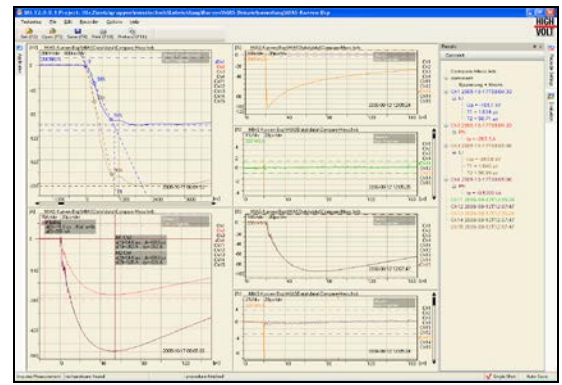


Figure 3: Multiple coordinate systems and zooming

Analyzing by standard procedures

The evaluation procedure of recorded impulses is fixed in standards, for HV testing especially in IEC 60060-1:2010. Different modes of evaluation can be chosen according to the test conducted.

Impulse voltage and current evaluation according to IEC 60060-1:2010 by:

- LI mode for lightning impulses
- LIC mode for chopped lightning impulses
- SI mode for switching impulses
- IC mode for impulse currents

Furthermore:

- PK mode for peak value evaluation
- CMP mode for compare function

Figure 4: Different evaluation modes available

Data storage

All evaluation results can be saved in related files which can be addressed or named automatically by the operator.

Export and import functions

The export functions enable to write EXCEL® and ASCII compatible file formats. With the iCOS Data Base (see Data Sheet 12.40) it is possible to export the data to each customer data base.

No.	Comment	Results	File	Date
1	"No. 01"	Ch_1 LI Up = 1.050 M	IEC_000001_MIAS Cur	08.11.2005 09:42
2	"No. 02"	Ch_1 LIC Up = 0.867	IEC_000002_MIAS Cur	08.11.2005 09:44
3	"No. 03"	Ch_1 LI Up = 1.049 M	IEC_000003_MIAS Cur	08.11.2005 09:45
4	"No. 04"	Ch_1 LI Up = 0.976 M	IEC_000004_MIAS Cur	08.11.2005 09:45
5	"No. 05"	Ch_1 SI Up = 0.95 M	IEC_000005_MIAS Cur	08.11.2005 09:46
6	"No. 06"	Ch_1 LI Up = 1.053 M	IEC_000006_MIAS Cur	08.11.2005 09:50
7	"No. 07"	Ch_1 LIC Up = 0.869	IEC_000007_MIAS Cur	08.11.2005 09:50
8	"No. 08"	Ch_1 LI Up = 1.050 M	IEC_000008_MIAS Cur	08.11.2005 09:51
9	"No. 09"	Ch_1 LI Up = 0.973 M	IEC_000009_MIAS Cur	08.11.2005 09:51
10	"No. 10"	Ch_1 SI Up = 0.95 M	IEC_000010_MIAS Cur	08.11.2005 09:53
11	"No. 11"	Ch_1 LI Up = 0.956 M	IEC_000011_MIAS Cur	08.11.2005 09:53
12	"No. 12"	Ch_1 LIC Up = 0.849	IEC_000012_MIAS Cur	08.11.2005 09:54
13	"No. 13"	Ch_1 LI Up = 1.070	IEC_000013_MIAS Cur	08.11.2005 09:55
14	"No. 14"	Ch_1 LI Up = 0.970	IEC_000014_MIAS Cur	08.11.2005 09:56
15	"LI 1500V neg"	Ch_1 LI Up = -0.790	BSP_000015_MIAS Cur	08.11.2005 09:58
16	"LI 1500V pos"	Ch_1 LI Up = 1.524	BSP_000016_MIAS Cur	08.11.2005 09:59
17	"LI 1000V pos"	Ch_1 LI Up = 0.992 M	BSP_000017_MIAS Cur	08.11.2005 10:00
18	"LIC 1500V neg"	Ch_1 LIC Up = -1.430	BSP_000018_MIAS Cur	08.11.2005 10:01
20	"LIC 1800V neg"	Ch_1 LIC Up = -1.729	BSP_000020_MIAS Cur	08.11.2005 10:02
21	"LI 1000V neg with curve"	Ch_1 LI Up = -100.2	BSP_000021_MIAS Cur	08.11.2005 10:06
22	"LI 2000V neg with curve"	Ch_1 LI Up = -201.6	BSP_000022_MIAS Cur	08.11.2005 10:13

Figure 5: Load record dialog

The file formats *.WASC (Dr. Strauss), *.txt (Nicolet), *.txt (Haefely) *.TDG) from other suppliers can be imported.

Test report generation

A WORD report generator enables the preparation of a wide variety of WORD templates for the automatic preparation of test records, including logo, figures, tables or general information.

Software check

The software according to IEC 61083-2 based on representative impulse curves (TDG) is implemented or loaded from the TDG-CD. These curves are evaluated by the software and resulting parameter values with the related tolerances of the standard by the operator.

No.	Up	T ₁	T ₂	T _c	Comment
1	1.05 MV	0.847 µs	60.007 µs		No. 01
2	1.049 MV	1.663 µs	46.788 µs		No. 03
3	1.053 MV	0.85 µs	59.806 µs		No. 06
4	1.05 MV	1.662 µs	46.845 µs		No. 08
5	0.956 MV	1.1 µs	86.992 µs		No. 11
6	+1.055 MV	3.45 µs	60.425 µs		No. 13
7	-0.97 MV	1.95 µs	44.819 µs		No. 14
8	0.867 MV	0.504 µs		0.569 µs	No. 02
9	0.849 MV	0.529 µs		0.557 µs	No. 12
10	0.859 MV	0.501 µs		0.567 µs	No. 07
11	0.976 MV	1.052 µs	49.67 µs		No. 04
12	0.973 MV	1.045 µs	49.541 µs		No. 09

Figure 6: Word test report

Optional software packages

Whereas the main software HiRES IAS is necessary for all recorders, the optional packages include special impulse test routines.

The optional iCOS Data Base (Data Sheet 12.40) is able to handle a practically unlimited amount of recorded and evaluated data, ready for further evaluation. The Data Base is characterized by standardized (SQL) interfaces, easy handling, guaranteed data integrity and automatic backup.

On special request HIGHVOLT is ready to supply also tailor-made software packages.