DMI 511

Digital Measuring Instrument

Datasheet

HAEFELY

Current and voltage – our passion

General Description

The Digital Measuring Instrument DMI 551 is a microprocessor controlled device for measuring AC, DC and impulse voltages. The instrument can also be used for firing a generator or a chopping sphere gap and to trigger an oscilloscope or any other measuring device. The triggers can be set for delays in time and in phase. The DMI 551 is in accordance to the international standard IEC 60060-2.

The three separate measuring channels, as well as the trigger function are usable individually or in combination and can be activated by a software code.

The DMI 551 has implemented a flash detector which stores and shows the last voltage measurement and its polarity before a breakdown or flashover occurs.

The instrument is specially designed for use in high voltage laboratories where a high degree of accuracy is necessary. Typical main applications of the DMI 551 include measurements of a voltage divider output or for automated product testing where the DMI 551 is integrated into a complete control and measuring platform.

The instrument is built into a 19'' standard housing with 3 height units. For ease of use the DMI 551 is equipped with a 5.2'' liquid crystal display and a numerical keypad.

For remote control or data transfer the DMI 551 provides an RS 232 or a IEEE 488 interface. AC and DC measurements can be printed directly via a separate plotter port on an external X-Y graph recorder.

The AC out interface can be connected to an oscilloscope.

HAEFELY is able to calibrate the DMI 551 according to DKD (German Calibration Services) which is traceable to highest national and international standards.

Features
▪ AC voltage measurement by capturing rms, peak and peak/√2 values.
▪ AC voltage measurement by capturing rms, peak and peak/√2 values.
▪ DC voltage measurement and evaluation of mean value and ripple factor.
▪ Impulse voltage measurement by capturing peak values of lightning or switching impulses
▪ Impulse current measurement by acquiring the voltage across a current shunt.
▪ Flash detection of AC and DC flashovers. The generator can automatically be stopped from recharging
▪ Impulse current measurement by acquiring the voltage across a current shunt.

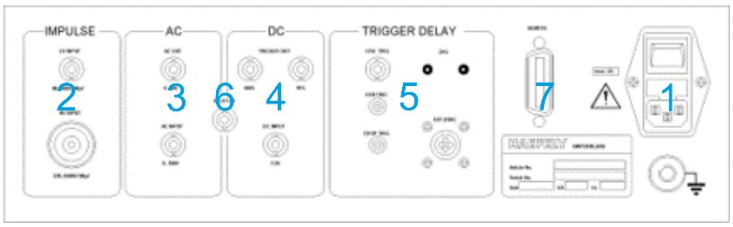
Benefits
☑ Easy to operate. Large LCD screen, case sensitive softkeys and special function keys reduce setup time and ensure intuitive and safe handling.
☑ Simple to upgrade. Software codes are used for activating the individual measuring modes. Uninstallation, transportation and reinstallation gets therefore superfluous
☑ Accurate and reliable. Well established hardware and extensively tested software allows meaningful and credible measurements
☑ Customized solution. Due to the flexibility of the DMI 551 many HV measuring applications can be covered with this single device. Cost effective investments are therefore guaranteed

Applications

- Transformer Testing
- Switchgear Testing
- Research and Development
- Surge Arrestor Testing

Interfaces

1 Power supply switch
2 Impulse inputs
3 AC input/output
4 DC input, Trigger outs
5 Trigger delay
6 X-Y recorder output
7 Remote control



Order Information

Name	Description	Ordering No.
DMI 551	Digital Measuring Instrument in a 19'' desktop housing	2495511
DMI 551 RACK	Digital Measuring Instrument as a 19''/3HU rack version	2495512
DMI AC	Software code for using the AC mode	2482733
DMI DC	Software code for using the DC mode	2479211
DMI IMP	Software code for using the impulse mode	2482743
DMI ZAG	Software code for using the trigger mode (DMI DC required)	2474871
DMI REMOTE	Software code for using the remote control mode	2497431
DMI LEMO	LEMO T adapter for current measurements	0751611
DMI MATCH	Matching resistor 75 Ω for LEMO T adapter	2129470

Technical Data

AC MEASUREMENT	
Measurement modes	peak, peak/√2, rms
Voltage range	0 … 150 V rms
Frequency range	16 ⅔ … 40 Hz [1] 40 … 400 Hz [2]
Accuracy	[1] ± 1.0% rdg, ± 3 counts [2] ± 0.5% rdg, ± 3 counts

DC MEASUREMENT	
Measurement modes	mean value, ripple
Voltage range	0 … 7.5 V
Ripple range	0 … 0.5 V, 50 … 1000 Hz
Accuracy	± 0.5% rdg, ± 3 counts

IMPULSE MEASUREMENT	
Measurement modes	peak value
Voltage range	0 … 400 V (BNC jack) 0 … 1600 V (LEMO 4250)
Accuracy	± 1% rdg, ± 3 counts

TRIGGERING	
Generator gap	manual or automatic
Chopping gap	0 … 2000 µs
Oscilloscope	-20 … 2000 µs
Phase synchronisation	0 … 360°

INTERFACES	
Remote control	IEEE 488 or RS 232
X-Y recorder	BNC 2 kΩ, 0 – 10 V DC
AC out	BNC 2 kΩ, 0 – 10 V AC

Environmental, Mechanical and Power Supply	
Operating temperature	10 … 40° C
Humidity	35 … 80 % r.h., n.c.
Dimensions (W x D x H)	450 x 135 x 350 mm
Weight	6.6 kg
Power supply Spec.	85 … 264 V AC, 50/60 Hz, 30 W

SYSTEM CONFIGURATION	
Processor	386 SX, 25 MHz
Monitor	5.2'' LCD, 240 x 128 pixels
Keyboard	membrane type, 31 keys

Applicable Standards	
General	
CE conformity	

Global Presence

Europe
HAEFELY AG
Birsstrasse 300
4052 Basel
Switzerland

☎ + 41 61 373 4111
sales@haefely.com

China
HAEFELY AG Representative Office
8-1-602, Fortune Street, No. 67
Chaoyang Road, Beijing 100025
China

☎ + 86 10 8578 8099
sales@haefely.com.cn

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HAEFELY
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H HIGH VOLTAGE
I INSTRUMENTS
E EMC

precision. swiss made.