

what's **NEW** in
DOW Test Equipment

DOW3000

Solution for Slow & Fast Oscillatory Wave tests



 IEC 61000-4-18

 ANSI C37.90

 IEC 61000-4-10

Introducing DOW3000

Unique Features of DOW3000

DOW3000 is a state of the art test system designed from the ground up to provide optimum and cost efficient capabilities to a wide spectrum of users. In particular DOW3000 offers the following unique features:

Modular design

Flexible solution that meets exactly customer requirements. The modular design enables a basic system to be extended to include further test capability. The system can be assembled from Slow Wave Module, Fast Wave Module, Impulse Module or any combination of all three.

Full Compliance system

Complies fully with IEC 61000-4-18 and ANSI C37.90 latest edition.

The insulation impulse option extends DOW3000 to fulfill many product standards including: IEC 60255-27, IEC 62052-11 and more.

Insulation test Impulse

An insulation voltage impulse of 1.2/50 μ s with output impedance 500 Ω and energy 0.5Joules is available as module that can be selected during the sales process. The maximum impulse voltage is 8kV.

Slow DOW signals

The 100kHz and 1MHz slow DOW signals are together in one module that the user selects during the sales process. The maximum test level is 4.4kV

Fast DOW signals

3MHz, 10MHz and 30MHz DOW signals are mounted into a single module that the user can select during the sales process. The maximum test level is 4.4kV

Magnetic Field Tests

Using the MF1000-1 external coil connected to the Slow DOW outputs, magnetic fields according to IEC 61000-4-10 can be generated.

Integrated Coupler for DOW Waveforms

An integrated three phase coupler enables both Slow and Fast DOW signals to be superimposed onto power lines. The 32A current rating covers all applications.

Modern Control Features

7 inch colour touch panel provides an easy to follow and informative user interface. Graphic and contextual help functions make operation simple and efficient.

Control from a remote PC is possible using the Ethernet port and TEMA3000 software.



Basic and Product Standards

DOW3000 system meets and exceeds the requirements of the basic standards:

IEC 61000-4-18 Electromagnetic compatibility (EMC) : Testing and measurement techniques.

IEC 61000-4-10 Testing and Measurement Techniques : Damped Oscillatory Magnetic Field.

Additionally many product standards can also be met:

IEC 60255-27 Measuring Relays and Protection Equipment

IEC 62052-11 Electricity Metering Equipment (AC) General Conditions

ANSI C37.90.1 IEEE Standard for Surge Withstand Capability for Relays and Relay Systems



Slow
100kHz & 1MHz



Fast
3MHz, 10MHz,
30MHz



1.2/50us Impulse

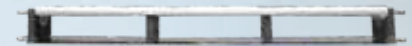
Data Line Coupling

Both Slow and Fast DOW signals can be used to test data lines.

Fast DOW signals (3MHz, 10MHz, 30MHz) are coupled using a capacitive coupling clamp as defined in IEC 61000-4-18 and ANSI C37.90. The capacitive coupling clamp is the same design as used in EFT in IEC 61000-4-4. CN-EFT1000 is ideal for this test.

Capacitive Coupling Clamp

Oscillation frequency	3MHz, 10MHz, 30MHz
Usable Cable diameter	4 - 70mm
Maximum Insulation Voltage	5kV (1.2/50us)
Coupling Capacitance	100 - 1000pF



Slow DOW signals (100kHz, 1MHz) can be coupled using a specialist device. Coupling into Ethernet ports and asymmetric data ports is possible.

Data Line Common Specifications

Maximum EUT Voltage AC	300V
Maximum EUT Voltage DC	200V
Maximum EUT Current	3A per line continuous
Coupling capacitance Slow DOW	0.5uF
Coupling Mode	Common Mode & Differential Mode



Technical Specification

Damped Oscillatory Waves (SLOW)

Oscillation frequency	100kHz & 1MHz
Voltage range	0.2 up to 4.4kV
Source impedance	200 ohms
Voltage increment	1V steps
Damping rate	50% between 3rd and 6th periods
Pulse rise time	75ns
Burst repetition at 100kHz	up to 50Hz
Burst repetition at 1MHz	up to 500Hz
Polarity	Positive, negative

Damped Oscillatory Waves (FAST)

Oscillation frequency	3MHz, 10MHz, 30MHz
Voltage range	0.2 up to 4.4kV
Source impedance	50 ohms
Voltage increment	1V steps
Damping rate	50% between 3rd and 6th periods
Pulse rise time	5ns
Burst repetition all frequencies	up to 5kHz
Polarity	Positive, negative

Surge IEC 60255-5 0.5J 500 Ohm

Waveform at no load	No load = $R > 100\Omega$
Rise time	1.2 μ s
Time to half value	50 μ s
Adjustable voltage range	500V - 8000V
Polarity	pos. / neg.

Damped Oscillatory Waves Magnetic Field

with MF1000-1

Oscillation frequency	100kHz & 1MHz
Antenna dimension	1m x 1m
Current range	1 up to 150A (100A/m)

Integrated CDN

Signals coupled to Power main	100kHz, 1MHz, 3MHz, 10MHz & 30MHz
EUT Voltage Line to Line	690Vac
EUT Voltage Line to Ground	400Vac
EUT supply frequency	DC to 60Hz
Coupling Path Slow DOW	Common Mode & Differential Mode
Coupling Path Fast DOW	Common Mode
Residual Voltage	< 15% of Impulse level



Information and specifications in this document are an indication of capability only. Technical performance is given in the EMC PARTNER AG Technical specification for the corresponding instruments. Version 20.02.2017. Subject to change without notice.