

# PIM 110

## 0.5us - 100kHz Ring Wave Impulse Module

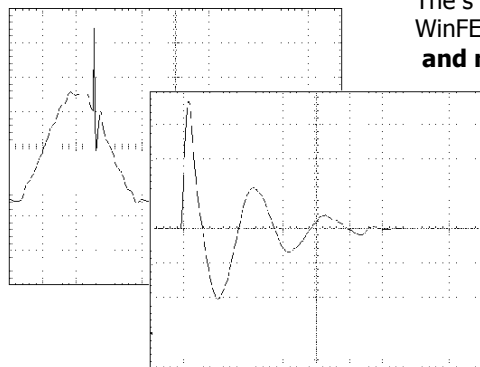
■ **IEC 61000-4-12 and ANSI C62.41** describe a Ring Wave generator for application on power lines in a protected environment. ANSI C62.41 specifies the ring wave for testing products situated in Location Category A and B. The standard differentiates between the two categories by detailing different effective impedances of 30 and 12 ohms respectively. IEC 61000-4-12 applies the same criteria as ANSI but adds a 200 ohm source impedance and includes the testing of input/output ports.

**Safety is paramount** with surge impulses. The PIM 110 High Voltage connections are all linked into the System Safety Concept which prevents high voltage plugs or cables from exposing operators to potentially lethal voltages. This concept is extended to Coupling/Decoupling Networks (CDNs) connected to the PIM 110 output.

PIM 110 as part of the PSURGE 8000 Surge Platform System can be used together with

**Coupling/Decoupling Networks (CDNs)** for superimposition of the impulse on AC and DC power lines. Single and three phase CDNs have multiplexed inputs, allowing up to 3 impulse modules to be connected. A full suite of test impulses can then be performed completely automatically and without the need to power down and reconnect the EUT.

PSURGE 8000 Surge Platform can perform all the programming functions required to perform IEC and ANSI testing without the need of a control computer. Voltage and Current monitor circuits enable quick and easy verification of the impulse shape and amplitude. In addition, **peak measurement circuits** are used to help determine EUT PASS/FAIL criterion.



The integration in the WinFEAT&R control and reporting software package enhances efficient set-up and operation of this test system. Most importantly, the test load can be transferred to a computer freeing valuable resources.

### ■ Features

- ✓ **Floating** high voltage output
- ✓ Ring wave **0.5us - 100kHz** (voltage & current)
- ✓ **7.8kV** impulse voltage
- ✓ **12Ω, 30Ω and 200Ω** source impedance
- ✓ Impulse voltage & current **monitors**
- ✓ Accurate **phase angle** synchronisation

### ■ Benefits

**International application** – Specifically designed to meet and exceed the requirements of IEC, EN, and ANSI tests for power line applications.

**Accurate Impulse Synchronisation** - The PIM 110 impulses can be applied to the AC power wave with  $\pm 1^\circ$  accuracy.

**Safe and Easy** - The interlocked HV section and the integrated controller allow your operators to test safely and easily.

**Sturdy and Reliable** – Careful component selection ensures that the PIM 110 will continue to operate under the most strenuous testing regime.

**Report Generation** - The unit can automatically generate test reports without a computer. Add WinFEAT&R control and reporting software to collect and collate data in any format you like.

**Perform tests as you really want** – Because the EUT requires a CDN to enable coupling of the Surge impulse, PIM 110 pulses are guaranteed to be within the standard specification at the point where an EUT connects to the test system.

### ■ Applications

- ✓ Single & Three phase power line systems
- ✓ IEC 61000-4-12 Power & Data lines
- ✓ ANSI C62.41 Power lines
- ✓ Many IEC & EN Product standards
- ✓ Other international requirements for Ring wave impulses

## ■ Technical Specifications

Impulse Voltage	0.20 – 7.8kV $\pm 10\%$	Impulse rise time	V= 0.5us $\pm 20\%$ & I= < 1.0us
Source Impedance	12, 30 & 200 Ohms	Impulse frequency	100kHz $\pm 10\%$ ( V & I)
Impulse Polarity	Positive and Negative	Voltage Monitor	BNC, (750/1)
Repetition @ Umax	5 seconds / 12 per minute	Current Monitor	BNC, (12 & 30 $\Omega$ 80A/V) 200 $\Omega$ 5A/V
Line Synchronisation	1° steps $\pm 1^\circ$ @50Hz	Impulse Output	HV connector with safety circuit

Weights and Dimensions (W x H x D, net weight)

PIM 110	45 x 17 x 57 cm	44 lbs (25 kg)
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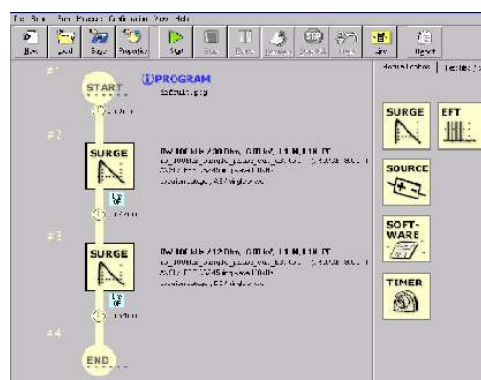
## ■ PIM 110 Art. No. 249903 Scope of Supply

- Qty. 1 PIM 110 Impulse Module
- Qty. 1 HV DC Bus cable 1m
- Qty. 1 Haefely Bus cable 0.5m
- Qty. 1 Earth bonding cable 1m
- Qty. 1 Earth bonding cable 0.25m
- Qty. 1 Users Manual

## ■ Options and Accessories

- PCD 100 Single phase CDN 16Aac & dc.  
Automatic coupling path switching.  
Two multiplexed high voltage inputs.
- PCD 130 Three phase CDN 32Aac & dc  
Automatic coupling path switching.  
Three multiplexed high voltage inputs.
- PCD 126 Coupling network for control and data lines
- DEC 7 Decoupling network for control and data lines
- PIM 100 Combination wave generator according to ANSI C62.41 & IEC 61000-4-5
- PEX 400 Case for PIM modules.
- ADAPTERS Single phase input & output adapters enable PCD 130 to be used for single phase applications
- WinFEAT&R Control and reporting software.  
Runs under windows 98, NT, ME, 2000, XP
- Rack Mounting Modules can be rack mounted for greater mechanical stability and mobility.

## WinFEAT&R Control Window



## PCD 130 Three phase power line CDN



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