Overview Component Test Systems

Test Equipment vs. Test Objects

PSURGE 8000 with PIM 200 and PIM 210
PIM 200: Current impulse 8/20µs from 800A to 12kA; 10/1000µs 8A to 110A
PIM 210: Current impulse 8/20µs from 1A to 1.2kA; 10/1000µs 1A to 11A
Test objects:
- varistors according IEC 61051-1 & -2, IEC61643-331, ANSI C62.33
- gas arrestors (gas discharge tubes) according IEC 61643-311, ANSI C62.31 and ITU-T K.12
- avalanche breakdown diodes (transzorbdiodes) according IEC 61643-321, ANSI C62.35
- Telecom systems according ITU-T K. series
- Residual current fault switches according UL 943

PSURGE 8000 with PIM 400, PIM 410, PIM 110 and PCD 430
PIM 400: Combination wave 1.2/50µs & 8/20µs with Z=2Ω up to 7.4kV
PIM 410: Combination wave 1.2/50µs & 8/20µs with Z=12Ω up to 7kV
PIM 110: Ringwave 0.5µs / 100kHz with 12Ω, 30Ω and 200Ω up to 7.8kV
PCD 430: allows superposition onto three phase mains, fault current defined
Test objects:
- TVSS (Transient voltage surge suppressors) according UL 1449 (without PIM 110)
- TVSS (Transient voltage surge suppressors) according ANSI C62.41 (without PIM 410)
- SPDs (Surge protecting devices) according IEC 61643-1 (without PIM 110 & 410)
- Surge tests according ANSI C62.41 (without PIM 410)

PSURGE 8000 with PIM 100 and PIM 110 and PCD 130
PIM 100: Combination wave 1.2/50µs & 8/20µs with Z=2Ω up to 7.4kV / 3.7kA
PIM 110: Ringwave 0.5µs / 100kHz with Z=12Ω, 30Ω and 200Ω up to 7.8kV
PCD 130: Superposition of surge impulses onto three phase mains lines
Test objects:
- Residual current fault switches without overcurrent protection according IEC 61008
- Residual current fault switches with overcurrent protection according IEC 61009
- Surge tests according ANSI C62.41

PSURGE 30.2 and FP-SURGE 3010
Impulse shapes:
Combination wave 1.2/50µs & 8/20µs with Z=2Ω up to 30kV / 15kA (can be superimposed onto single phase mains with FP-SURGE 3010, fault current not defined)
Impulse current: 8/20µs up to 30kA, 10/350µs up to 1.2kA and 10/1000µs up to 400A
Test objects:
- Protection elements in general
- Surge tests according ANSI C62.41

PS 1500
Impulse shape not defined but impulse circuit, charging voltage 15kV
Test Objects:
- Components used for radio- and television application according IEC 60065 and UL 1414.

Test Objects vs. Test Equipment

Varistors (MOVs)
Standards: IEC 61051-1 & -2, IEC61643-331, ANSI C62.33
Equipment: PIM 200, PIM 210, PSURGE 30.2

Gas Arrestors (gas discharge tubes)
Standards: IEC 61643-311, ANSI C62.31, ITU-T K.12
Equipment: PIM 200, PSURGE 30.2

Avalanche Breakdown Diodes (Transzorbdiodes)
Standards: IEC 61643-321, ANSI C62.35
Equipment: PIM 200, PIM 210, PSURGE 30.2

TSS (Thyristor surge suppressors), Thyristor Diode Surge Protective Devices
Standards: IEC 61643-341, ANSI C62.37, ITU-T K.28
Equipment: PIM 100, PIM 120, PIM 200, PIM 8XX, PIM 9XX dependant on the requirements of the customer

TVSS (Transient voltage surge suppressors), SPDs (Surge protecting devices)
Standards: TVSS: UL 1449
SPDs: IEC 61643-1
Equipment: PIM 400 (UL 1449, IEC 61643-1, ANSI C62.41)
PIM 410 (UL 1449)
PCD 430 (UL 1449, IEC 61643-1)
PIM 110 (ANSI C62.41)
PSURGE 30.2 (ANSI C62.41, IEC 61643-1)

Resistors, Capacitors and Gas Arrestors for Radio- and Television application
Standards: IEC 60065, UL 1414
Equipment: PS 1500

Telecom Systems
Standards: ITU-T K.20, ITU-T K.21, ITU-T K.44, ITU-T K.45
Equipment: PIM 200, PIM 210, PSURGE 30.2

Residual Current Fault Switches
Standards: IEC 61008 (without overcurrent protection), IEC 61009 (with overcurrent protection), UL 943
Equipment: PIM 100, PIM 110, PIM 200 (for currents >3.6kA)

Overcurrent Trip Switches
Standards: IEC 60898
Equipment: PIM 100 with VTM 15000 or additional resistor box
PIM 130 with additional resistor box
PSURGE 4010 with VTM 15000

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