

# IEC/EN 61000-4-11 Monitoring measurements (options 06/07) and “Inrush current source” (option 19-5)

*The relating standards:*

*IEC/EN 61000-4-11*

*IEC/EN 61000-2-8*

## MONITORING MEASUREMENTS (OPTIONS 06 AND 07)

The IEC/EN 61000-4-11 voltage dips, short interruptions and variations test can be carried out using an oscilloscope together with the Spitzenberger & Spies Software package “SPS EMC” for the best test documentation and test reports.

### Test conditions:

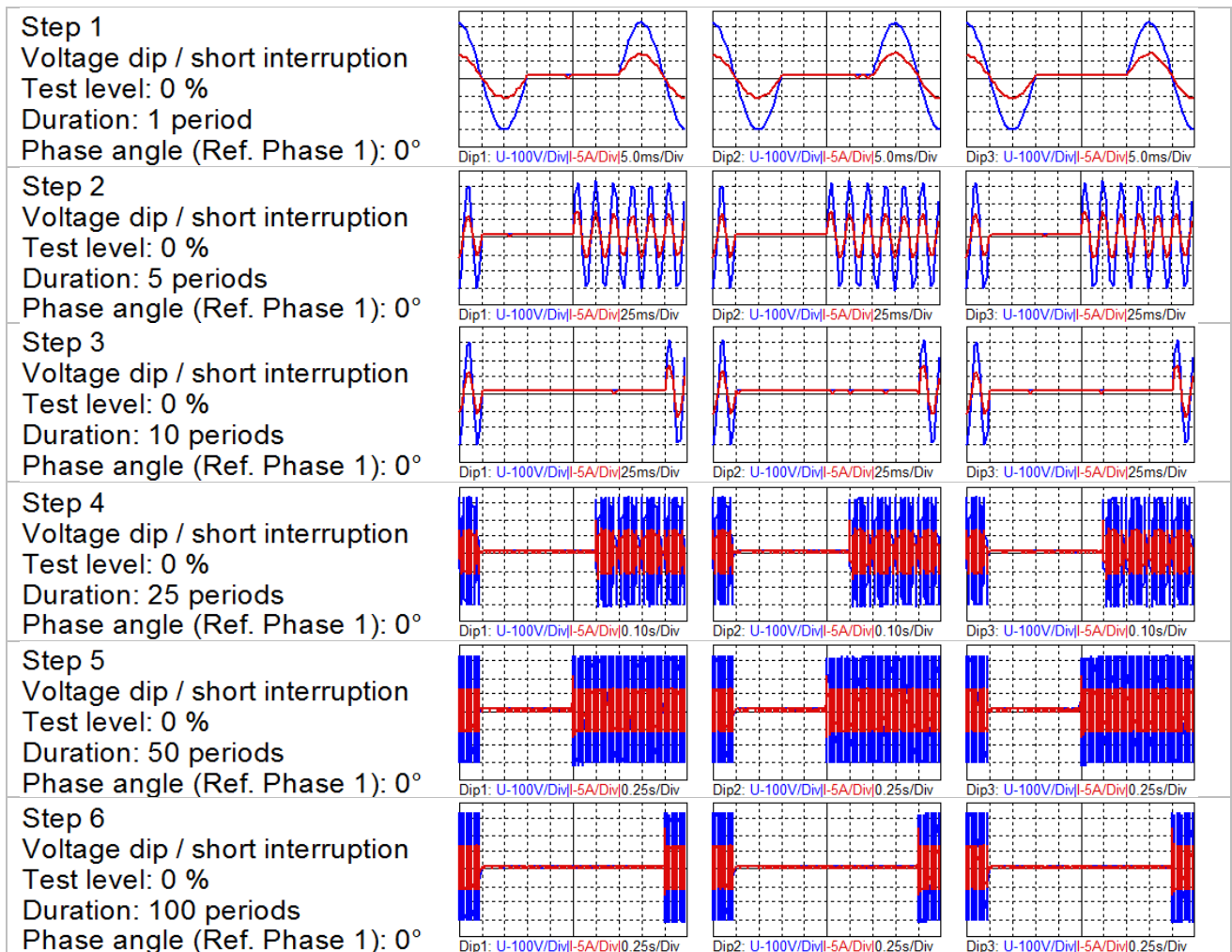
Voltage / Frequency: 230.0 V / 50Hz

Test phase: 1

Executed test: Dip example 1: Total drop

Test description: Total drop out, time increasing from 1 period up to 100 periods

Disturbances per step: 3 (per phase angle) / with 10.5 sec delay



### IEC/EN 61000-4-11 Test evaluation results:

- Normal performance within the specification limits
- Temporary degradation or loss of function or performance which is self-recoverable
- Temporary degradation or loss of function or performance which requires operator intervention or system reset
- Degradation or loss of function which is not recoverable due to damage of equipment or software or data loss



## “Inrush current source” - Option 19-5

*The relating standards:*

*IEC/EN 61000-4-11*

*Annex A clause A.3 „EUT peak inrush current requirement“*

### “INRUSH CURRENT SOURCE” - OPTION 19-5

By using the option 19-5 “Inrush current source”, it is not necessary to measure the EUT peak inrush current requirement during the test. Without the option “Inrush current source”, tests according to IEC/EN 61000-4-11 can be performed, if the inrush requirement of the EUT is less than the inrush drive capability of the generator.

*“In order to be able to use a low-inrush current drive capability generator to test a particular EUT, that EUT’s measured inrush current shall be less than 70% of the measured inrush current drive capability of the generator.” (EN 61000-4-11:2004-03 / Annex A (normative) A.3 )*

PAS inrush current drive capability without option 19-5 “Inrush current source”:

4-Quadrant Amplifier	Peak current at 90 ° / 270 °	EUT Inrush current
PAS 1000	17A <sub>p</sub>	12A <sub>p</sub>
PAS 2500	55A <sub>p</sub>	38A <sub>p</sub>
PAS 5000	110A <sub>p</sub>	77A <sub>p</sub>
PAS 7500	165A <sub>p</sub>	115A <sub>p</sub>
PAS 10000	260A <sub>p</sub>	182A <sub>p</sub>
PAS 15000	370A <sub>p</sub>	259A <sub>p</sub>

4-Quadrant Amplifier	Peak current at 90 ° / 270 °
PAS 20000	520A <sub>p</sub>
PAS 25000	630A <sub>p</sub>
PAS 30000	740A <sub>p</sub>
PAS 40000	1040A <sub>p</sub>

**„The 4-Quadrant Amplifiers type PAS 20000, PAS 25000, PAS 30000 and PAS 40000 have an inrush current drive capability of more than 500A<sub>p</sub> – therefore no additional “Inrush current source” is required.**

