

CA PFS

VERIFICATION KIT FOR POWER FAIL SIMULATORS



FOR TESTS ACCORDING TO ...

- > EN 61000-4-11
- > EN 61000-4-34
- > IEC 61000-4-11
- > IEC 61000-4-34





CA PFS - INRUSH CURRENT MEASUREMENT FOR POWERFAIL GENERATORS

The inrush current capability of PowerFail generators as per EN/IEC 61000-4-11 and IEC/EN 61000-4-34 can be verified by means of the CA PFS circuit box. The circuit is specified in Annexes of EN/IEC 61000-4-11, -34 Standard. The inrush current is measured by means of the built-in current delivering a voltage signal of 10 mV/A at the corresponding BNC output connected to an oscilloscope with selected 1 MOhm input impedance.

HIGHLIGHTS

- > **Compact calibration kit**
- > **According to EN/IEC 61000-4-11, IEC/EN 61000-4-34**
- > **Built-in current probe 10 mV/A**
- > **Built-in 5.4 kOhm resistor to discharge the storage capacitor**
- > **Monitor output to measure the residual capacitor voltage (divider 100:1)**

APPLICATION AREAS

-  INDUSTRY
-  MEDICAL
-  BROADCAST
-  TELECOM
-  RESIDENTIAL

TECHNICAL DETAILS

APPLICATION

GENERAL INFORMATION

Based on the inrush current capability specified in EN/IEC 61000-4-11 the PowerFail generator needs to be subjected to an inrush current higher than 500 A @220-240 VAC and 1000 A @250-600 VAC. The EN/IEC 61000-4-34 defines a minimum inrush current related to the rated equipment current of 500 A up to more than 1 000 A.

The mains supply is normally not able to deliver such a high inrush current. Realistic currents from the mains supply are limited by the impedance of the supply system and can be expected to be in the range of approx. 100 A to 200 A. Even such current is likely to trip the building's mains fuses.

The following guidelines are recommended to be followed for a proper inrush current verification of a PowerFail generator:

A peak current capacitor of approx. 20 uF or more shall be installed in parallel to the mains supply. This capacitor will feed the peak inrush current through the PowerFail generator into the CA PFS.

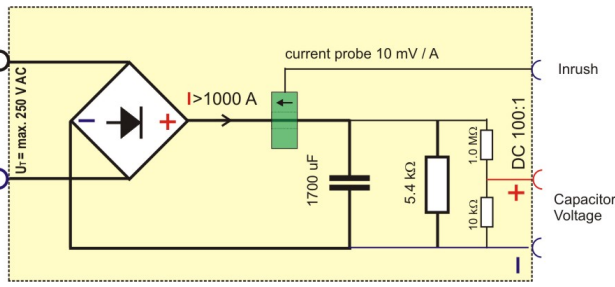
Due to the high inrush current and the likely tripping of the mains fuses the test duration is limited to only a few milliseconds. The max. duration time t_d depends on the current capacity of the overcurrent protection devices installed in the mains supply.

For the test the PowerFail generator must be set to the dU mode with only one of the PFS inputs (PF1 or PF2) being connected to the mains supply.

The Inrush current measured by means of a digital storage oscilloscope which is connected to the BNC output.

- Scope Input impedance = 1 Mohm
- 500 A = 5 V peak signal

Before the next inrush current measurement can be done the built-in storage capacitor (1,700 uF capacitor) is required to be discharged to a level of a few volt only. The residual voltage can be measured with a voltmeter at the capacitor voltage output (divider ratio 100:1).



CAPACITOR VOLTAGE OUTPUT	
Range	100:1
Accuracy	+/-10 %
Impedance	1 Mohm
Connectors	4 mm safety lab connectors

CURRENT MONITOR OUTPUT	
Range	10 mV/A
Accuracy	+/-5 %
Connector	BNC
Scope impedance	1 Mohm recommended

AMBIENT CONDITIONS	
Temperature operating	0° to 35°
Humidity	80 % non condensing

GENERAL DATA	
Line Voltage	100 V - 250 V max.
Inrush Current	> 1,000 A
Capacitor	1,700 uF +/-20 %
Discharge Resistor	5,400 ohm +/-10 %

DIMENSIONS AND WEIGHT	
Dimensions	360 mm x 200 mm x 152 mm (LxWxH)
Weight	approx. 3.5 kg

COMPETENCE WHEREVER YOU ARE



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