

Extract from Test report for NS protection: 28110633 007  
 “Determination of electrical properties”

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Extract No: 2 \_ Annex F.4 (VDE-AR-N 4105)

Table: Construction of the power generation system/network and system protection (NS-protection)			
<b>Central NS protection</b>			
<b>NS protection as central NS protection</b>		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
<b>Type of NS protection</b>	---	<b>Other manufacturer's data</b>	
<b>Software version</b>	---	---	
<b>Manufacturer</b>	---		
<b>Measuring period</b>		---	
<b>Protection function</b>	<b>Setting value</b>	<b>Tripping Value</b>	<b>Tripping time NS protection</b>
Voltage drop protection U <	0,8 * U <sub>n</sub>	* U <sub>n</sub>	- ms
Rise-in-voltage protection U >	1,1 * U <sub>n</sub>	* U <sub>n</sub>	- s
Rise-in-voltage protection U >>	1,15 * U <sub>n</sub>	* U <sub>n</sub>	- ms
Frequency decrease protection f <	47,5 Hz	Hz	- ms
Frequency increase protection f >	51,5 Hz	Hz	- ms
<b>Integrated NS protection</b>			
<b>NS protection as integrated NS protection</b>		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
<b>Type of NS protection</b>	AC contactors	<b>Other manufacturer's data</b>	
<b>Software version</b>	<b>Not less than</b> 1726B for TRIO-TM-50.0-400 (NOTE *)	Assigned to PGU Type : <b>TRIO-TM-50.0-400</b>	
<b>Manufacturer</b>	POWER-ONE ITALY S.P.A. Via S. Giorgio, 642 52028 Terranuova Bracciolini, Arezzo, Italy	Integrated interface switch Type of switching equipment 1: AC contactor Type of switching equipment 2: AC contactor	
<b>Measuring period</b>		17/01/2017 - 16/06/2017	
<b>Protection function</b>	<b>Setting value</b>	<b>Tripping Value</b>	<b>Break time</b>
Voltage drop protection U <	0.8 * U <sub>n</sub>	183.4V	172.0 ms
Rise-in-voltage protection U >	1.1 * U <sub>n</sub>	1.1 * U <sub>n</sub>	483.6 s ( 1 → 1.2 * U <sub>n</sub> ) 4.78 s ( 1.06 → 1.14 * U <sub>n</sub> )
Rise-in-voltage protection U >>	1.15 * U <sub>n</sub>	264.40V	166.0 ms
Frequency decrease protection f <	47.5 Hz	47.50Hz	194.9 ms
Frequency increase protection f >	51.5 Hz	51.50Hz	185.7 ms
proper time of interface switch	20 ms Max.		
The break time (sum of tripping time NS protection plus proper time of interface switch) shall not exceed 200ms. The verification of the full function chain “NS-protection – Interface switch” has yield to intended disconnection			
<b>NOTE *:</b> Update Version identifies the Firmware Bundle Update Version by a sequential code: xxxxy (where xxxx is a number and y is a letter from A to G)			