

Certificate G83/1-1

Engineering Recommendation

Manufacturer	N.V. Nederlandsche Apparatenfabriek "Nedap"
Address	Parallelweg 2
Postal code + City,	7141 DC Groenlo
Country	The Netherlands
Testhouse details	AIT Austrian Institute of Technology Österreichisches Forschungs- und Prüfzentrum Arsenal Ges.m.b.H. Giefinggasse 2, 1210 Vienna, Austria
Type reference	PowerRouter PR50S / PR50SB / PR50B / PR50W / PR50SBW
Max. AC power	5000 W
Nominal AC power	5000 W

The results of the G83/1-1 test are summarized in this certificate. Complete documentation on test details are recorded in report 2.03.02093.1.0

N.V. Nederlandsche Apparatenfabriek "Nedap" declares that all products that are shipped to the UK comply with the requirements defined in engineering recommendation G83/1-1. These settings cannot be changed by the installer, user or y any other person without the use of a tool (password protected). The complete documentation can be viewed at N.V. Nederlandsche Apparatenfabriek "Nedap" after prior announcement.

Test Details

- Power Quality
- Harmonic current emissions as per BS EN 61000-3-2 A
- DC injection / power factor
- Voltage fluctuations and flicker as per BS EN 61000-3-3 A
- Under / Over voltage switch off
- Under / Over frequency switch off
- Los of mains test
- Reconnection time

Drawn up in
Date

Groenlo, The Netherlands
August 5, 2010



Name and position

J. Thomassen, Managing Director Nedap Energy Systems

Test Results

Harmonics - ER G83/1-1 C4.1

Harmonic current emissions as per BS EN 61000-3-2 Class A								
Harmonic	2nd	3rd	5th	7th	9th	11th	13th	15- 39th
Limit (Amp)	1.08	2.3	1.14	0.77	0.4	0.33	0.21	0.15 x(15/n)
Test value (Amp)	0.006	0.2	0.1	0.08	0.06	0.05	0.04	< limit BS EN 61000-2-3 A

Power Factor - ER G83/1-1 C4.2 and DC Injection - ER G83/1-1 C4.4

Power Factor			DC injection			
G83/1-1 Limit	0.95 lag – 0.95 lead at 3 voltage levels at Prated			20mA, tested at 3 levels		
Test level	212	230	248	10%	50%	100%
Test value	0.9999	0.9999	0.9999	12mA	9mA	1mA

Voltage Flicker - ER G83/1-1 C4.3

Harmonic	Starting	Stopping	Running	
Limit	4%	4%	Pst = 1.0	Plt = 0.65
Test value	0.7%	0.7%	0.138	0.138

Over / Under Voltage – ER G83/1-1 C3.2

Parameter	Under Voltage switch off		Over Voltage switch off	
	Voltage (V)	Time (s)	Voltage (V)	Time (s)
G83/1-1 limit	207	5	264	5
Actual setting		-		-
Trip value	208	< 1.5 s	262	< 1.5 s

Over / Under Frequency - ER G83/1-1 C3.3

Parameter	Under frequency switch off		Over frequency switch off	
	Frequency (Hz)	Time (s)	Frequency (Hz)	Time (s)
G83/1-1 limit	47 ± 0.5%	5	50.5 ± 0.5%	5
Actual setting		-		-
Trip value	47	< 0.5 s	50.5	< 0.5 s

Loss of Mains Protection - ER G83/1-1 C3.4

Method used	Frequency shift		
Output power Level	10% Prated	55% Prated	100% Prated
G83/1-1 limit	0.5(5)	0.5(5)	0.5(5)
Trip setting	-	-	-
Trip value	0.4	0.2	0.17

Re-connection - ER G83/1-1 C3.5

Reconnection time	Under/Over Voltage	Under/Over Frequency	Loss of mains
Minimal value	180 s	180 s	180 s
Actual setting	-	-	-
Recorded value	180 s	180 s	180 s

Short circuit current contribution - ER G83/1-1 C4.6

Not required

Self Monitoring - Solid State Disconnection - ER G83/1-1 C4.7

Not required