FORM A2-3 Compliance Verification Report for Type A Inverter Connected Power Generating Modules

This form should be used by the **Manufacturer** to demonstrate and declare compliance with the requirements of EREC G99. The form can be used in a variety of ways as detailed below:

1. To obtain **Fully Type Tested** status (≤50kW)

The **Manufacturer** can use this form to obtain **Fully Type Tested** status for a **Power Generating Module** by registering this completed form with the Energy Networks Association (ENA) Type Test Verification Report Register. Tests 1 – 15 must all be completed and compliant for the **Power Generating Module** to be classified as **Fully Type Tested**.

2. To obtain **Type Tested** status for a product

This form can be used by the **Manufacturer** to obtain **Type Tested** status for a product which is used in a **Power Generating Module** by registering this form with the relevant parts completed with the Energy Networks Association (ENA) Type Test Verification Report Register.
Where the **Manufacturer** is seeking to obtain **Type Tested** status for an **Interface Protection** device the appropriate section of Form A2-4 should be used.

3. One-off Installation

This form can be used by the **Manufacturer** or **Installer** to confirm that the **Power Generating Module** has been tested to satisfy all or part of the requirements of this EREC G99. This form shall be submitted to the **DNO** as part of the application.

A combination of (2) and (3) can be used as required, together with Form A2-4 where compliance of the **Interface Protection** is to be demonstrated on site.

Note:
Within this Form A2-3 the term Power Park Module will be used but its meaning can be interpreted within Form A2-3 to mean Power Park Module, Generating Unit or Inverter as appropriate for the context. However, note that compliance must be demonstrated at the Power Park Module level.

If the Power Generating Module is Fully Type Tested and registered with the Energy Networks Association (ENA) Type Test Verification Report Register, the Installation Document (Form A3) should include the Manufacturer's reference number (the Product ID), and this form does not need to be submitted.

Where the Power Generating Module is not registered with the ENA Type Test Verification Report Register or is not Fully Type Tested this form (all or in parts as applicable) needs to be completed and provided to the DNO, to confirm that the Power Generating Module has been tested to satisfy all or part of the requirements of this EREC G99.

Manufacturer´s reference number	Tauro 50-3-D		
PGM technology	IGBT power modules, transformerless		
Manufacturer name	Fronius International GmbH		
Adress	Guenter Fronius Str.1 4600 Wels-Thalheim, Austria		
Tel	*+43-7242-241-0*	Fax	*+43-7242-241-224*

E:mail	*pv@fronius.com*	Web site	www.fronius.com
Registered Capacity			50 kW

Manufacturer compliance declaration. - I certify that all products supplied by the company with the above **Type Tested Manufacturer's** reference number will be manufactured and tested to ensure that they perform as stated in this document, prior to shipment to site and that no site **Modifications** are required to ensure that the product meets all the requirements of EREC G99.

Signed		On behalf of	Fronius International GmbH

Note that testing can be done by the **Manufacturer** of an individual component or by an external test house.

Where parts of the testing are carried out by persons or organisations other than the **Manufacturer** then that person or organisation shall keep copies of all test records and results supplied to them to verify that the testing has been carried out by people with sufficient technical competency to carry out the tests.

1. Operating Range: Tests should be carried with the **Power Generating Module** operating at **Registered Capacity** and connected to a suitable test supply or grid simulation set. The power supplied by the primary source shall be kept stable within ± 5 % of the apparent power value set for the entire duration of each test sequence.

Frequency, voltage and **Active Power** measurements at the output terminals of the **Power Generating Module** shall be recorded every second. The tests will verify that the **Power Generating Module** can operate within the required ranges for the specified period of time.

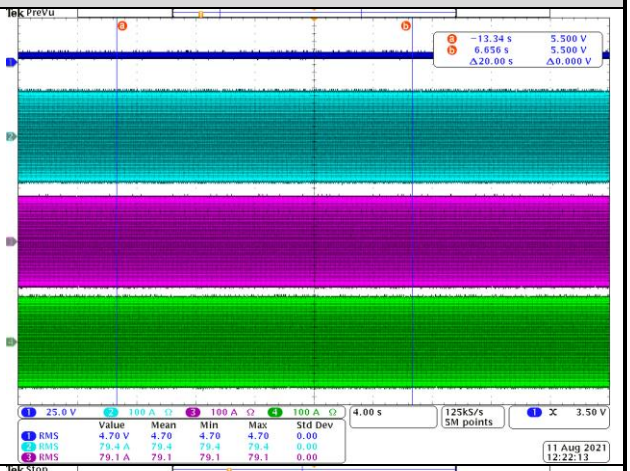
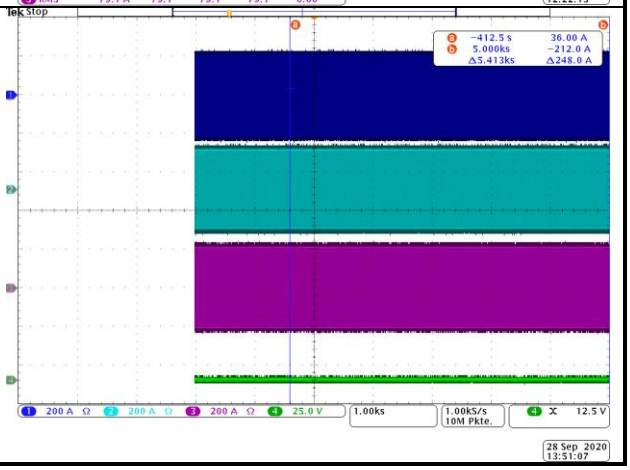
The **Interface Protection** shall be disabled during the tests.

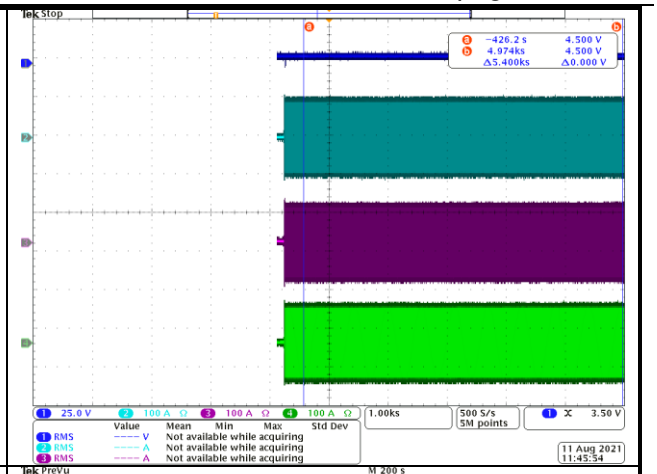
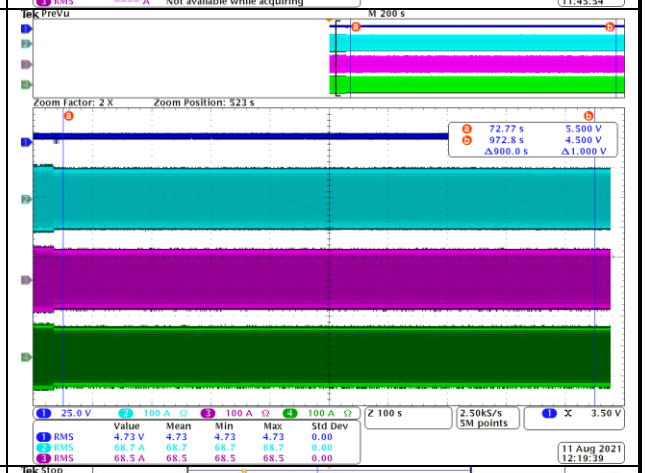
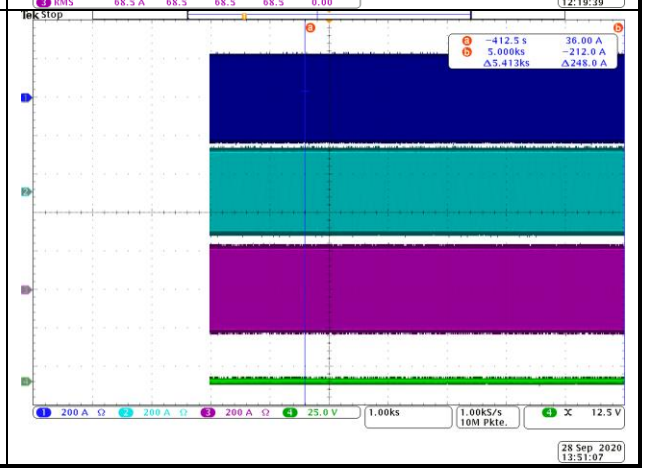
In case of a PV **Power Park Module** the PV primary source may be replaced by a DC source.

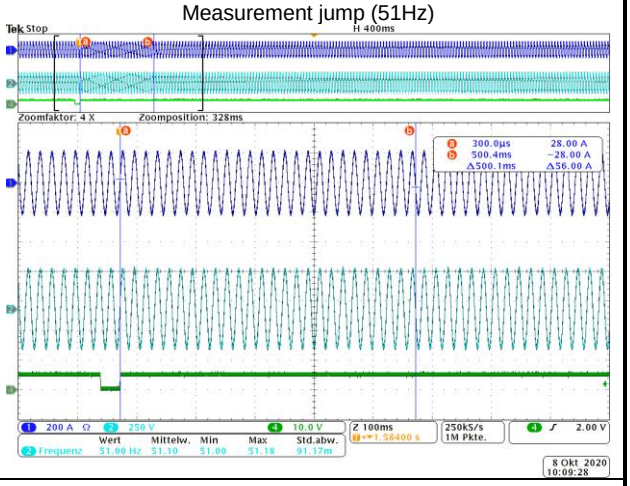
In case of a full converter **Power Park Module** (eg wind) the primary source and the prime mover **Inverter**/rectifier may be replaced by a DC source.

Pass or failure of the test should be indicated in the fields below (right hand side), for example with the statement “Pass”, “No disconnection occurs”, etc. Graphical evidence is preferred.

Note that the value of voltage stated in brackets assumes a **LV** connection. This should be adjusted for **HV** as required.

Test 1 Voltage = 85% of nominal (195.5 V), Frequency = 47.0 Hz, **Power factor** = 1, Period of test 20 s	
Test 2 Voltage = 85% of nominal (195.5 V), Frequency = 47.5 Hz, **Power factor** = 1, Period of test 90 minutes	

Test 3 Voltage = 110% of nominal (253 V), Frequency = 51.5 Hz, **Power factor** = 1, Period of test 90 minutes	
Test 4 Voltage = 110% of nominal (253 V), Frequency = 52.0 Hz, **Power factor** = 1, Period of test 15 minutes	
Test 5 Voltage = 100% of nominal (230 V), Frequency = 50.0 Hz, **Power factor** = 1, Period of test 90 minutes	

Test 6 RoCoF withstand Confirm that the **Power Generating Module** is capable of staying connected to the **Distribution Network** and operate at rates of change of frequency up to 1 Hzs^{-1} as measured over a period of 500 ms. Note that this is not expected to be demonstrated on site.	Measurement before jump (50Hz)  Measurement jump (51Hz) 
Remark: During the tests 1, 2, 3, 4,5 and 6 the unit does not disconnect, tests have been passed.	

2. Power Quality – Harmonics:

For **Power Generating Modules** of **Registered Capacity** of less than 75 A per phase (ie 50 kW) the test requirements are specified in Annex A.7.1.5. These tests should be carried out as specified in BS EN 61000-3-12, and measurements for the 2nd – 13th harmonics should be provided. The results need to comply with the limits of Table 2 of BS EN 61000-3-12 for single phase equipment and Table 3 of BS EN 610000-3-12 for three phase equipment. For three phase **Power Generating Modules**, measurements for all phases should be provided.

For **Power Generating Modules** of **Registered Capacity** of greater than 75 A per phase (ie 50 kW) the installation shall be designed in accordance with EREC G5.

The rating of the **Power Generating Module** (per phase) should be provided below, and the Total Harmonic Distortion (THD) and Partial Weighted Harmonic Distortion (PWHD) should be provided at the bottom of this section.

Power Generating Module tested to BS EN 61000-3-12

Phase 1						
Power Generating Module rating per phase (rpp)			16.6	kVA	Harmonic % = Measured Value (A) x 23/rating per phase (kVA)	
Harmonic	At 45-55% of **Registered Capacity**		100% of **Registered Capacity**		Limit in BS EN 61000-3-12	
	Measured Value MV in Amps	%	Measured Value MV in Amps	%	1 Phase	3 phase
2	0.013	0.017	0.053	0.073	8%	8%
3	0.012	0.016	0.018	0.025	21.6%	Not stated
4	0.006	0.009	0.018	0.025	4%	4%
5	0.050	0.069	0.074	0.102	10.7%	10.7%
6	0.006	0.008	0.008	0.011	2.67%	2.67%
7	0.054	0.074	0.070	0.096	7.2%	7.2%
8	0.004	0.006	0.014	0.019	2%	2%
9	0.011	0.015	0.008	0.012	3.8%	Not stated
10	0.003	0.004	0.007	0.010	1.6%	1.6%
11	0.035	0.048	0.074	0.102	3.1%	3.1%
12	0.003	0.004	0.011	0.015	1.33%	1.33%
13	0.045	0.062	0.065	0.089	2%	2%
THD[23]		0.32		0.23	23%	13%
PWHD[24]		1.05		0.53	23%	22%

Phase 2						
Power Generating Module rating per phase (rpp)			16.6	kVA	Harmonic % = Measured Value (A) x 23/rating per phase (kVA)	
Harmonic	At 45-55% of **Registered Capacity**		100% of **Registered Capacity**		Limit in BS EN 61000-3-12	
	Measured Value MV in Amps	%	Measured Value MV in Amps	%	1 Phase	3 phase
2	0.015	0.020	0.044	0.061	8%	8%
3	0.010	0.013	0.022	0.031	21.6%	Not stated
4	0.005	0.006	0.012	0.016	4%	4%
5	0.052	0.071	0.077	0.107	10.7%	10.7%
6	0.006	0.009	0.006	0.008	2.67%	2.67%
7	0.055	0.075	0.069	0.095	7.2%	7.2%
8	0.005	0.007	0.009	0.012	2%	2%
9	0.007	0.010	0.011	0.015	3.8%	Not stated
10	0.003	0.005	0.007	0.010	1.6%	1.6%
11	0.031	0.043	0.071	0.097	3.1%	3.1%
12	0.004	0.005	0.007	0.010	1.33%	1.33%
13	0.041	0.057	0.065	0.090	2%	2%
THD[23]		0.32		0.22	23%	13%
PWHD[24]		0.98		0.51	23%	22%

Phase 3						
Power Generating Module rating per phase (rpp)			16.6	kVA	Harmonic % = Measured Value (A) x 23/rating per phase (kVA)	
Harmonic	At 45-55% of **Registered Capacity**		100% of **Registered Capacity**		Limit in BS EN 61000-3-12	
	Measured Value MV in Amps	%	Measured Value MV in Amps	%	1 Phase	3 phase
2	0.015	0.021	0.042	0.058	8%	8%
3	0.013	0.017	0.010	0.014	21.6%	Not stated
4	0.007	0.010	0.013	0.018	4%	4%
5	0.046	0.064	0.070	0.096	10.7%	10.7%
6	0.006	0.008	0.007	0.010	2.67%	2.67%
7	0.048	0.066	0.059	0.082	7.2%	7.2%
8	0.004	0.006	0.006	0.008	2%	2%
9	0.012	0.016	0.007	0.009	3.8%	Not stated
10	0.002	0.003	0.009	0.012	1.6%	1.6%
11	0.037	0.051	0.072	0.099	3.1%	3.1%
12	0.003	0.004	0.002	0.003	1.33%	1.33%
13	0.046	0.064	0.057	0.079	2%	2%
THD[23]		0.31		0.22	23%	13%
PWHD[24]		0.95		0.56	23%	22%

[23] THD = Total Harmonic Distortion
[24] PWHD = Partial Weighted Harmonic Distortion

3. Power Quality – Voltage fluctuations and Flicker:

For **Power Generating Module**s of **Registered Capacity** of less than 75 A per phase (ie 50 kW) these tests should be undertaken in accordance with Annex A.7.1.4.3. Results should be normalised to a standard source impedance, or if this results in figures above the limits set in BS EN 61000-3-11 to a suitable Maximum Impedance.

For **Power Generating Module**s of **Registered Capacity** of greater than 75 A per phase (ie 50 kW) the installation shall be designed in accordance with EREC P28.

The standard test impedance is 0.4 Ω for a single phase **Power Generating Module** (and for a two phase unit in a three phase system) and 0.24 Ω for a three phase **Power Generating Module** (and for a two phase unit in a split phase system). Please ensure that both test and standard impedance are completed on this form. If the test impedance (or the measured impedance) is different to the standard impedance, it must be normalised to the standard impedance as follows (where the **Power Factor** of the generation output is 0.98 or above):

d max normalised value = (Standard impedance / Measured impedance) x Measured value.

Where the **Power Factor** of the output is under 0.98 then the X to R ratio of the test impedance should be close to that of the standard impedance.

The stopping test should be a trip from full load operation.

The duration of these tests needs to comply with the particular requirements set out in the testing notes for the technology under test.

The test date and location must be declared.

	Starting			Stopping			Running	
	d_{max}	d_c	$d_{(t)}$	d_{max}	d_c	$d_{(t)}$	P_{st}	P_{lt} 2 hours
Measured Values at test impedance	1.60	2.96	-	1.60	2.96	-	0.31	0.31
Normalised to standard impedance	4.80	8.88	-	4.80	8.88	-	0.94	0.94
Normalised to required maximum impedance	1.77	3.27	-	1.77	3.27	-	0.35	0.35
Limits set under BS EN 61000-3-11	4%	3.3%	3.3%	4%	3.3%	3.3%	1.0	0.65

Test Impedance	R	0.08	Ω	XI	0.05	Ω
Standard Impedance	R	0.24 * ~~0.4^~~	Ω	XI	0.15 * ~~0.25^~~	Ω
Maximum Impedance	R	0.086	Ω	XI	0.059	Ω

* Applies to three phase and split single phase **Power Generating Modules**.

^ Applies to single phase **Power Generating Module** and **Power Generating Modules** using two phases on a three phase system.

Test start	24.03.21 11:06	Test end	24.03.21 14:17	
Test location	Fronius R&D Laboratories, Fronius International GmbH, Guenter Fronius Str 1, A-4600 Wels-Thalheim, Austria			

4. Power quality – DC injection: The tests should be carried out on a single **Generating Unit**. Tests are to be carried out at three defined power levels ±5%. At 230 V a 50 kW three phase **Inverter** has a current output of 217 A so DC limit is 543 mA. These tests should be undertaken in accordance with Annex A.7.1.4.4.

The % DC injection ("as % of rated AC current" below) is calculated as follows:
% DC injection = Recorded DC value in Amps / Base current
where the base current is the **Registered Capacity** (W) / Vphase. The % DC injection should not be greater than 0.25%.

Phase 1			
Test power level	10%	55%	100%
Recorded value in Amps	36 mA	88 mA	168 mA
as % of rated AC current	0.05 %	0.121 %	0.232 %
Limit	0.25%	0.25%	0.25%
Phase 2			
Test power level	10%	55%	100%
Recorded value in Amps	21 mA	92 mA	156 mA
as % of rated AC current	0.029 %	0.127 %	0.215 %
Limit	0.25%	0.25%	0.25%
Phase 3			
Test power level	10%	55%	100%
Recorded value in Amps	32 mA	66 mA	136 mA
as % of rated AC current	0.044 %	0.091 %	0.188 %
Limit	0.25%	0.25%	0.25%
Note: DC-injection has been tested at each phase and a limit of 0.25% per phase was used as a pass criteria.			

5. Power Factor: The tests should be carried out on a single **Power Generating Module**. Tests are to be carried out at three voltage levels and at **Registered Capacity** and the measured **Power Factor** must be greater than 0.95 to pass. Voltage to be maintained within ±1.5% of the stated level during the test. These tests should be undertaken in accordance with Annex A.7.1.4.2.

Note that the value of voltage stated in brackets assumes a **LV** connection. This should be adjusted for **HV** as required.

Voltage	0.94 pu (216.2 V)	1 pu (230 V)	1.1 pu (253 V)
Measured value	1.000	1.000	1.000
Power Factor Limit	>0.95	>0.95	>0.95

6. Protection – Frequency tests: These tests should be carried out in accordance with Annex A.7.1.2.3. For trip tests, frequency and time delay should be stated. For "no trip tests", "no trip" can be stated.

Function	Setting		Trip test		"No trip tests"	
	Frequency	Time delay	Frequency	Time delay	Frequency /time	Confirm no trip
U/F stage 1	47.5 Hz	20 s	47.498 Hz	20.042 s	47.7 Hz 30 s	No trip occurred
U/F stage 2	47 Hz	0.5 s	46.998 Hz	0.542 s	47.2 Hz 19.5 s	No trip occurred

					46.8 Hz 0.45 s	No trip occurred
O/F stage 1	52 Hz	0.5 s	52.005 Hz	0.541 s	51.8 Hz 120.0 s	No trip occurred
					52.2Hz 0.45 s	No trip occurred
Note. For frequency trip tests the frequency required to trip is the setting ± 0.1 Hz. In order to measure the time delay a larger deviation than the minimum required to operate the projection can be used. The "No trip tests" need to be carried out at the setting ± 0.2 Hz and for the relevant times as shown in the table above to ensure that the protection will not trip in error.						

7. Protection – Voltage tests: These tests should be carried out in accordance with Annex A.7.1.2.2. For trip tests, voltage and time delay should be stated. For "no trip tests", "no trip" can be stated.

Note that the value of voltage stated below assumes a **LV** connection This should be adjusted for **HV** taking account of the VT ratio as required.

Phase 1						
Function	Setting		Trip test		"No trip tests"	
	Voltage	Time delay	Voltage	Time delay	Voltage /time	Confirm no trip
U/V	0.8 pu (184 V)	2.5 s	183.510 V	2.542 s	188 V 5.0 s	No trip occurred
					180 V 2.45 s	No trip occurred
O/V stage 1	1.14 (262.2 V)	1.0 s	262.661 V	1.042 s	258.2 V 5.0 s	No trip occurred
O/V stage 2	1.19 (273.7 V)	0.5 s	274.354 V	0.541 s	269.7 V 0.95 s	No trip occurred
					277.7 V 0.45 s	No trip occurred
Phase 2						
Function	Setting		Trip test		"No trip tests"	
	Voltage	Time delay	Voltage	Time delay	Voltage /time	Confirm no trip
U/V	0.8 pu (184 V)	2.5 s	183.730 V	2.542 s	188 V 5.0 s	No trip occurred
					180 V 2.45 s	No trip occurred
O/V stage 1	1.14 (262.2 V)	1.0 s	262.571 V	1.042 s	258.2 V 5.0 s	No trip occurred
O/V stage 2	1.19 (273.7 V)	0.5 s	274.316 V	0.541 s	269.7 V 0.95 s	No trip occurred
					277.7 V 0.45 s	No trip occurred
Phase 3						
Function	Setting		Trip test		"No trip tests"	
	Voltage	Time delay	Voltage	Time delay	Voltage /time	Confirm no trip
U/V	0.8 pu (184 V)	2.5 s	183.490 V	2.542 s	188 V 5.0 s	No trip occurred
					180 V 2.45 s	No trip occurred
O/V stage 1	1.14 (262.2 V)	1.0 s	262.548 V	1.042 s	258.2 V 5.0 s	No trip occurred
O/V stage 2	1.19 (273.7 V)	0.5 s	274.393 V	0.541 s	269.7 V 0.95 s	No trip occurred
					277.7 V	No trip occurred

	0.45 s	

Note for Voltage tests the Voltage required to trip is the setting ±3.45 V. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting ±4 V and for the relevant times as shown in the table above to ensure that the protection will not trip in error.

8. Protection – Loss of Mains test: These tests should be carried out in accordance with BS EN 62116. Annex A.7.1.2.4.

The following sub set of tests should be recorded in the following table.

Test Power and imbalance	33% -5% Q Test 22	66% -5% Q Test 12	100% -5% P Test 5	33% +5% Q Test 31	66% +5% Q Test 21	100% +5% P Test 10
Trip time Phase 1 Limit is 0.5s	200 ms	203 ms	244 ms	186 ms	427 ms	241 ms
Trip time Phase 2 Limit is 0.5s	200 ms	203 ms	244 ms	186 ms	427 ms	241 ms
Trip time Phase 3 Limit is 0.5s	200 ms	203 ms	244 ms	186 ms	427 ms	241 ms

Loss of Mains Protection, Vector Shift Stability test. This test should be carried out in accordance with Annex A.7.1.2.6. Confirmation is required that the **Power Generating Module** does not trip under positive / negative vector shift.

	Start Frequency	Change	Confirm no trip
Positive Vector Shift	49.5 Hz	+50 degrees	No trip occurred
Negative Vector Shift	50.5 Hz	-50 degrees	No trip occurred

Loss of Mains Protection, RoCoF Stability test: This test should be carried out in accordance with Annex A.7.1.2.6. Confirmation is required that the **Power Generating Module** does not trip for the duration of the ramp up and ramp down test.

Ramp range	Test frequency ramp:	Test Duration	Confirm no trip
49.0 Hz to 51.0Hz	+0.95 Hzs^{-1}	2.1 s	No trip occurred
51.0 Hz to 49.0Hz	-0.95 Hzs^{-1}	2.1 s	No trip occurred

9. Limited Frequency Sensitive Mode – Over frequency test: The test should be carried out using the specific threshold frequency of 50.4 Hz and **Droop** of 10%.

This test should be carried out in accordance with Annex A.7.1.3, which also contains the measurement tolerances.

Active Power response to rising frequency/time plots are attached if frequency injection tests are undertaken in accordance with Annex A.7.2.4.	**N**

Alternatively, simulation results should be noted below:

Test sequence at **Registered Capacity** >80%	Measured **Active Power** Output	Frequency	Primary Power Source	**Active Power** Gradient
Step a) 50.00 Hz ±0.01 Hz	51017 W	50.00 Hz	51 kW	20%/Hz
Step b) 50.45 Hz ±0.05 Hz	51016 W	50.45 Hz		
Step c) 50.70 Hz ±0.10 Hz	48429 W	50.70 Hz		
Step d) 51.15 Hz ±0.05 Hz	43799 W	51.15 Hz		

Step e) 50.70 Hz ±0.10 Hz	48429 W	50.70 Hz		
Step f) 50.45 Hz ±0.05 Hz	51010 W	50.45 Hz		
Step g) 50.00 Hz ±0.01 Hz	51017 W	50.00 Hz		

Test sequence at **Registered Capacity** 40% - 60%	Measured **Active Power** Output	Frequency	Primary Power Source	**Active Power** Gradient
Step a) 50.00 Hz ±0.01 Hz	25467 W	50.00 Hz	25.5 kW	20%/Hz
Step b) 50.45 Hz ±0.05 Hz	25463 W	50.45 Hz		
Step c) 50.70 Hz ±0.10 Hz	24169 W	50.70 Hz		
Step d) 51.15 Hz ±0.05 Hz	21858 W	51.15 Hz		
Step e) 50.70 Hz ±0.10 Hz	24168 W	50.70 Hz		
Step f) 50.45 Hz ±0.05 Hz	25462 W	50.45 Hz		
Step g) 50.00 Hz ±0.01 Hz	25466 W	50.00 Hz		

10. Protection - Re-connection timer.

Test should prove that the reconnection sequence starts after a minimum delay of 20 s for restoration of voltage and frequency to within the stage 1 settings of Table 10.1. Both the time delay setting and the measured delay should be provided in this form; both should be greater than 20 s to pass. Confirmation should be provided that the **Power Generating Module** does not reconnect at the voltage and frequency settings below; a statement of "no reconnection" can be made.

Time delay setting	Measured delay		Checks on no reconnection when voltage or frequency is brought to just outside stage 1 limits of table 10.1.			
20.0 s	99 s		At 1.16 pu (266.2 V **LV** connection, 127.6 V **HV** connection assuming 110 V ph-ph VT)	At 0.78 pu (180.0 V **LV** connection, 85.8 V **HV** connection assuming 110 V ph-ph VT)	At 47.4Hz	At 52.1Hz
Confirmation that the **Power Generation Module** does not re-connect.			No re-connect occurred	No re-connect occurred	No re-connect occurred	No re-connect occurred

11. Fault level contribution: These tests shall be carried out in accordance with EREC G99 Annex A.7.1.5.

Please complete each entry, even if the contribution to the fault level is zero.

For **inverter** output

Phase 1 / Neutral		
Time after fault	Volts	Amps
20 ms	16.8 V	66.9 A
100 ms	12.4 V	30.5 A
250 ms	11.6 V	19.6 A
500 ms	11.3 V	14.2 A
Time to trip	0.0289	In seconds
Phase 2 / Neutral		
Time after fault	Volts	Amps
20 ms	193 V	59.8 A
100 ms	89.3 V	27.1 A

250 ms	57.5 V	17.3 A
500 ms	41.7 V	12.5 A
Time to trip	0.0323	In seconds
Phase 3 / Neutral		
Time after fault	Volts	Amps
20 ms	214 V	58.7 A
100 ms	101 V	26.6 A
250 ms	64.7 V	17.0 A
500 ms	46.8 V	11.3 A
Time to trip	0.0310	In seconds

12. Self-Monitoring solid state switching: No specified test requirements. Refer to Annex A.7.1.6.	
It has been verified that in the event of the solid state switching device failing to disconnect the **Power Park Module**, the voltage on the output side of the switching device is reduced to a value below 50 volts within 0.5 s.	NA
Note: Unit do not provide solid state switching relays. In case the semiconductor bridge is switched off, then the voltage on the output drops to 0. In this case the relays on the output will also open (functional safety of the internal automatic disconnection device according to VDE 0126-1-1).	

13. Wiring functional tests: If required by para 15.2.1.	
Confirm that the relevant test schedule is attached (tests to be undertaken at time of commissioning)	NA

14. Logic interface (input port)	
Confirm that an input port is provided and can be used to shut down the module.	YES
Provide high level description of logic interface, e.g. details in 11.1.3.1 such as AC or DC signal (the additional comments box below can be used) High level description of logic interface: The Tauro inverter (Power Generating Module) has a WSD connector on the PILOT print (communication print) which can be used for shutdown and as a logic interface to switch of the inverter. The wired shutdown (WSD) interrupts the inverter feeding energy into the grid if the trigger device (switch) has been activated. If an inverter (secondary device) fails, it is bypassed and the other inverters continue operating. If a second inverter (secondary device) or the inverter (primary device) fails, the operation of the entire WSD chain is interrupted. When the WSD will be activated the Power Generating Module will reduce its Active Power to zero within 1 s. Details can be found in the user manual of the inverter: www.fronius.com	YES

15. Cyber security	
Confirm that the **Power Generating Module** has been designed to comply with cyber security requirements, as detailed in 9.1.7.	YES

Additional comments