

Test and Commission

GRID CONNECT SYSTEMS

System Owner

Address / Location

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Note that this checklist is to be read in conjunction with the Standard reference listed.

AS/NZS 5033:2012 Date of effect – 16/10/2012 (3 months from publication)

AS 4777.1:2005 is currently under review

		REFERENCE
PV Array ...		AS/NZS 5033 App D
PV module	manufacturer	
	model	
	number of series connected modules in PV string
	number of PV strings in parallel
BEFORE connecting PV strings		
CONTINUITY	at least one PV module connection is open	String 1 <input type="checkbox"/> AS/NZS 5033 App D2
	at least one PV module connection is open	String 2 <input type="checkbox"/>
	at least one PV module connection is open	String 3 <input type="checkbox"/>
	at least one PV module connection is open	String 4 <input type="checkbox"/>
	Earth to PV module frames	<input type="checkbox"/>
Connect PV modules – reconnect strings and close isolation as necessary		
POLARITY and VOLTAGE	Inverter a.c. output isolated	String 1 Voc <input type="checkbox"/> AS/NZS 5033 App D2
		String 2 Voc <input type="checkbox"/>
		String 3 Voc <input type="checkbox"/>
		String 4 Voc <input type="checkbox"/>
		Array 1 Voc <input type="checkbox"/>
		Array 2 Voc <input type="checkbox"/>
PV short circuit current tests [where required]		
with PV isolation at inverter OPEN	a test isolator should be used	
	String 1 Isc	A AS/NZS 5033 App D3
	String 2 Isc	A
	String 3 Isc	A
	String 4 Isc	A
	Array 1 Isc	A
	Array 2 Isc	A
	Irradiance estimate at time of test	W/m ²

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				REFERENCE															
PV Array ...																			
INSULATION RESISTANCE	PV Wiring	Array 1 positive to earth	MΩ	AS/NZS 5033 App D4															
		Array 1 negative to earth	MΩ																
		Array 2 positive to earth	MΩ																
		Array 2 negative to earth	MΩ																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">MINIMUM VALUES OF INSULATION RESISTANCE</th> </tr> <tr> <th>System voltage Voc stc x 1.25</th> <th>Test voltage</th> <th>Min insulation resistance</th> </tr> </thead> <tbody> <tr> <td>< 120V</td> <td>250V</td> <td>0.5 MΩ</td> </tr> <tr> <td>120 - 500V</td> <td>500V</td> <td>1 MΩ</td> </tr> <tr> <td>> 500V</td> <td>1000V</td> <td>1 MΩ</td> </tr> </tbody> </table>					MINIMUM VALUES OF INSULATION RESISTANCE			System voltage Voc stc x 1.25	Test voltage	Min insulation resistance	< 120V	250V	0.5 MΩ	120 - 500V	500V	1 MΩ	> 500V	1000V	1 MΩ
MINIMUM VALUES OF INSULATION RESISTANCE																			
System voltage Voc stc x 1.25	Test voltage	Min insulation resistance																	
< 120V	250V	0.5 MΩ																	
120 - 500V	500V	1 MΩ																	
> 500V	1000V	1 MΩ																	
<p>The insulation resistance test should be repeated for each PV array as a minimum. Individual strings may also be tested, if required.</p>																			
Inverter ...																			
CONTINUITY																			
isolate the grid supply at NORMAL SUPPLY MAIN SWITCH																			
Inverter to SOLAR SUPPLY MAIN SWITCH		Line	<input type="checkbox"/>																
		Neutral	<input type="checkbox"/>																
SOLAR SUPPLY MAIN SWITCH to kWh meter		Line	<input type="checkbox"/>																
		Neutral	<input type="checkbox"/>																
POLARITY	Inverter to SOLAR SUPPLY MAIN SWITCH		<input type="checkbox"/>																
	SOLAR SUPPLY MAIN SWITCH to kWh meter		<input type="checkbox"/>																
System Operation ... refer to system manual for the inverter and follow start-up procedure.																			
Operate PV d.c. and a.c. isolator/s																			
System connects to grid after 60 seconds <input type="checkbox"/>																			
Voltage at d.c. input of inverter	Array 1	V																	
	Array 2	V																	
voltage/s are within operating limits of inverter <input type="checkbox"/>																			
Voltage at a.c. output of inverter	V																	
Input power of the inverter	W																	
Output power of the inverter	W																	
output power is as expected <input type="checkbox"/>																			
Isolate inverter a.c. output	system immediately disconnects from grid		<input type="checkbox"/>																

CEC Install guideline

AS/NZS 5033 App D2
 CEC Install guideline

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		REFERENCE
System Operation ...		AS/NZS 5033 App D2 CEC Install guideline
Open PV isolators	isolation operates normally - no arcing detected	<input type="checkbox"/>
isolate PV strings and reconnect one string at a time		
PV operating current	String 1	A
	String 2	A
	String 3	A
	String 4	A
	Array 1	A
	Array 2	A
	Irradiance estimate at time of test	W/m ²

COMMENTS

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[where insufficient space is provided, add another sheet]

Installer

CEC Accreditation No

Electrical licence No

..... Date / /

signature

While all care has been taken to ensure all information included is free from omission and error,
 no responsibility will be taken for the use of this checklist in the installation of any PV system.