

Version 10 - Feb 2024

Your Company Logo



Site Address or GPS Co-ordinates where available: _____

User / Owners Contact Details

Client's Name and Surname _____
 E-mail address _____
 Physical address _____
 Suburb _____ Province _____ Contact Number: _____

Solar Contractors Details

Installer Name and Surname _____
 Accreditation number _____
 Registration number with the Department of Labour _____

Electrical Contractor's Details

Same as above
 Registered Person's Name and Surname _____
 Accreditation number _____
 Registration number with the Department of Labour where the contractor is registered as: _____

Electrical Contractor is:

Single Phase Tester Installation Electrician Master Electrician Working under General Control

Type of Installation

Hybrid Inverter as Backup Complete Section 1, 2 and 5
 Hybrid Inverter with Solar PV Complete Section 1, 2, 3, 4a + 4b(When Required) and Section 5
 SSEG Installation - Hybrid /Grid Tied Inverter used in Grid tied configuration without Storage Complete Section 1, 3, 4 and 5

This document can only be issued at a site where there is an existing and valid Certificate of Compliance covering the Main electrical reticulation

For installations with more components please copy or duplicate the required sections

1	Section 1a - Hybrid Inverter	Number <u>1</u> of _____	Brand Name: _____
2	Inverter Serial Nr _____	Inverter Capacity (in kW or kVA) _____ kVA _____ kW	
3	DB Board is <input type="checkbox"/> Single Phase <input type="checkbox"/> Three Phase	Inverter is wired <input type="checkbox"/> To a single Phase <input type="checkbox"/> To two Phases <input type="checkbox"/> To all three Phases	
4	AC Mains Input to Inverter - Circuit Breaker Size _____	Amps _____	kA _____ Conductor Size _____ mm2
5	AC Output from Inverter to Load - Circuit breaker size _____	Amps _____	kA _____ Conductor Size _____ mm2
6	Earth Neutral Bridge <input type="checkbox"/> Programmable / Internal relay <input type="checkbox"/> External Contactor / Relay <input type="checkbox"/> Hard Wired		
7	Inv. Casing bonded and continuous to Consumer Earth Bar 6.11 _____	Ohm _____	<input type="checkbox"/> Input CB Labelled <input type="checkbox"/> Output CB Labelled
8	Inverter Numbered with A Label (where there is more than 1) <input type="checkbox"/> Yes <input type="checkbox"/> Alternative Supply Label Fitted on Inverter		
9	Anti Islanding operation functional <input type="checkbox"/> Tested <input type="checkbox"/> N/A - (To be used for installations where there is no available grid)		
10	Number of Built-in MPPT's _____	Total Number of MPPT inputs _____	
11	MPPT Voltage Range Voc _____	Vmp _____	

1	Section 1b - Hybrid Inverter	Number <u>2</u> of _____	Brand Name: _____
2	Inverter Serial Nr _____	Inverter Capacity (in kW or kVA) _____ kVA _____ kW	
3	DB Board is <input type="checkbox"/> Single Phase <input type="checkbox"/> Three Phase	Inverter is wired <input type="checkbox"/> To a single Phase <input type="checkbox"/> To two Phases <input type="checkbox"/> To all three Phases	
4	AC Mains Input to Inverter - Circuit Breaker Size _____	Amps _____	kA _____ Conductor Size _____ mm2
5	AC Output from Inverter to Load - Circuit breaker size _____	Amps _____	kA _____ Conductor Size _____ mm2
6	Earth Neutral Bridge <input type="checkbox"/> Programmable / Internal relay <input type="checkbox"/> External Contactor / Relay <input type="checkbox"/> Hard Wired		
7	Inv. Casing bonded and continuous to Consumer Earth Bar 6.11 _____	Ohm _____	<input type="checkbox"/> Input CB Labelled <input type="checkbox"/> Output CB Labelled
8	Inverter Numbered with A Label (where there is more than 1) <input type="checkbox"/> Yes <input type="checkbox"/> Alternative Supply Label Fitted on Inverter		
9	Anti Islanding operation functional <input type="checkbox"/> Tested <input type="checkbox"/> N/A - (To be used for installations where there is no available grid)		
10	Number of Built-in MPPT's _____	Total Number of MPPT inputs _____	
11	MPPT Voltage Range Voc _____	Vmp _____	

12	Signatures for this page	Dated: _____
13	Installer _____	Registered person _____

14 **Section 2 - Batteries** Lead-Acid Lithium Other please specify _____

15 Battery Brand/Name _____ All Batteries are the same brand and size Yes No

16 Charge rate as set per inverter _____ Amps

17 Voltage Type Low Voltage (48V-96V) High Voltage (>100V)

Battery Installation Type Rack / Server Type Wall Hung Floor Standing

18 Rack / Server Type: Nr of Racks or Cabinets _____

19 Wall Hung: Number of batteries / cabinet _____

20 Floor Standing: Batteries in cabinet/s are wired in Series Parallel

21 Total Installation Capacity _____ kWh Total Capacity per Cabinet ± _____ kWh

22 Battery Enclosure Bonded to Consumer Earth Bar _____ Ohm Battery Cabinet Bonded to Consumer Earth Bar _____ Ohm

23 Take-off Lead from battery to Busbar / Fuse _____ mm2 Jumpers in between parallel batteries - Interlinks _____ mm2

Cable Sizing to be - each mm2 = 1kA Fault current 6.7.3.2

24 Fuse/s _____ Amp _____ is/are connected between the **inverter** and Rack / Server / Cabinet Busbar Battery

25 Circuit Breaker/s _____ Amp _____ is/are connected between the **inverter** and Rack / Server / Cabinet Busbar Battery

26 This is for external Fuse Protection (not the fuse or Circuit Breaker built into the battery)

27 Fuse/s _____ Amp _____ is/are connected between the **busbar** and Rack / Server / Cabinet Busbar Battery

28 Circuit Breaker/s _____ Amp _____ is/are connected between the **busbar** and Rack / Server / Cabinet Busbar Battery

29 This is for external Fuse Protection (not the fuse or Circuit Breaker built into the battery)

30 **Section 3 - Solar Modules**

31 Number of modules _____ Total PV System Size _____ kW Module Size _____ Watt Module Brand _____

Where possible, test and record the following values (alternatively calculate values), values indicated could be for single strings or parallel strings

		String 1	String 2	String 3	String 4	String 5	String 6	String 7	String 8
32	Nr. Of Modules Qty								
33	Voc								
34	Vmp								
35	Imp								
36	Isc								
37	Single String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	Parallel String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

33 Rating Calc. Tested / Read

34 Rating Calc. Tested / Read

35 Rating Calc.

36 Rating Calc.

39 PV Modules Bonded and continuous to Consumer Earth Bar _____ Ohm. Values for row 26 and 27 were measured at which point? Inverter Combiner At the String

40 All MC4 Type couplers are of the same Brand Yes Unknown

41 Mounting Structure Type Rooftop Ground Mount Carport Other

42 Module Frames are supported by Mounting Structure Rail made of Aluminium Galvanised Other

43 Mid and End Clamps are made of Stainless Steel Aluminium Galvanised Other

44 Conductors passing under tiles / through roofing materials are protected from Mechanical damage Yes N/A

45 Bolts on Mid and End Clamps are Torqued to which Value _____ Nm Modules/Strings are numbered and labelled Yes N/A

46 Positive and negative cables enter the roof/building at the same place (Meaning Conductors are bundled together) Yes N/A

47 Labelling of DC strings where they enter/ exit a wall/ roof (712.514.102 - Live parts marking) Yes N/A

48 Wiring loops were minimised according to 712.521.103 Unknown Yes N/A

49 **Signatures for this page** Dated: _____

50 Installer _____ Registered person _____

51 **Section 4a - Combiner / Fuse Boxes** Fuse Box Combiner Box Other please specify _____

52 **Short Circuit Protection** DC Circuit breaker DC Fuse Fuse / Circuit breaker Size _____ Amps and _____ kA
 Either Fuse or Circuit breaker Protection can be used on the positive conductors

53 **Reverse Current Protection** DC Fuse DC Fuse Size _____ Amps and _____ kA
 Only Fuses can be used. Circuit breakers do not protect against reverse current, Fuses will be situated on the negative conductors

54 **Isolation** DC Circuit Breaker DC Rated Isolator Isolation device Size _____ Amps and _____ kA
 (Fuse may not be used as an isolation device) - Double Pole

55 **Location** Combiner Boxes are installed at floor level and can be reached without a step ladder

56 **Labels** String Conductors are numbered and Labelled Combiner / Fuse Box is labelled "Danger - Live DC Conductors - Solar Power"

57 **Section 4b - External MPPT** ALL MPPT casings are bonded and continuous to earth

58 (Pos) Short Circuit Protection DC Circuit breaker Fuse or Circuit breaker Size DC Fuse _____ Amps and _____ kA
 Either Fuse or Circuit breaker Protection can be used on the positive conductors

59 (Neg) Reverse Current Protection DC Fuse DC Fuse Size _____ Amps and _____ kA
 Only Fuses can be used. Circuit breakers do not protect against reverse current, Fuses will be situated on the negative conductors

60 **Isolation** DC Disconnect DC Rated Isolator Isolation device Size _____ Amps and _____ kA
 (Fuse may not be used as an isolation device and cannot be opened under load) - Double Pole

61 String Conductors are numbered and Labelled MPPT's are numbered

62 MPPT's are labelled with a "Danger - Live DC Conductors - Solar Power" Sign

63 **Section 5 - General**

64 Earth Leakage has been fitted after inverter Yes N/A Earth Neutral Bond before RCD

65 DC Surge Protection fitted Type 1 and 2 combined Yes N/A Type 2 Yes Type 3 Yes N/A

66 AC Surge Protection has been fitted Type 1 and 2 combined Yes N/A Type 2 Yes Type 3 Yes N/A

67 Metal Wireways and trunking Bonded and continuous to Consumer Earth Bar Yes N/A

68 **Earth Loop** impedance test before E/L on DB Powered by Inverter _____ Ω **Neutral Loop** test at point of control _____ Ω

69 Plug Test has been completed and Earth Leakage Units are fully operational Yes N/A

70 Resistance of earth continuity conductor _____ Ω

71 Prospective Short circuit current at point of control for the DB Board where inverter is installed _____ kA

72 Elevated voltage between incoming neutral and external earth _____ V

73 Voltage at Main DB with no load for each phase to neutral Red _____ V White _____ V Blue _____ V

74 Voltage at Main DB with load for each phase to neutral Red _____ V White _____ V Blue _____ V

75 Lightning risk assesment completed Yes N/A

76 SLD single line diagram attached next to DB Yes Available as soft copy

77 Audible or visual warning where DB's are split Audible Visual

78 **Sections Completed under this test report**

79 1 Yes N/A

80 2 Yes N/A

81 3 Yes N/A

82 4a Yes N/A

83 4b Yes N/A

84 5 Yes N/A

85 **Signatures for this Document and Test Report** Dated: _____

86 Installer _____ Registered person _____