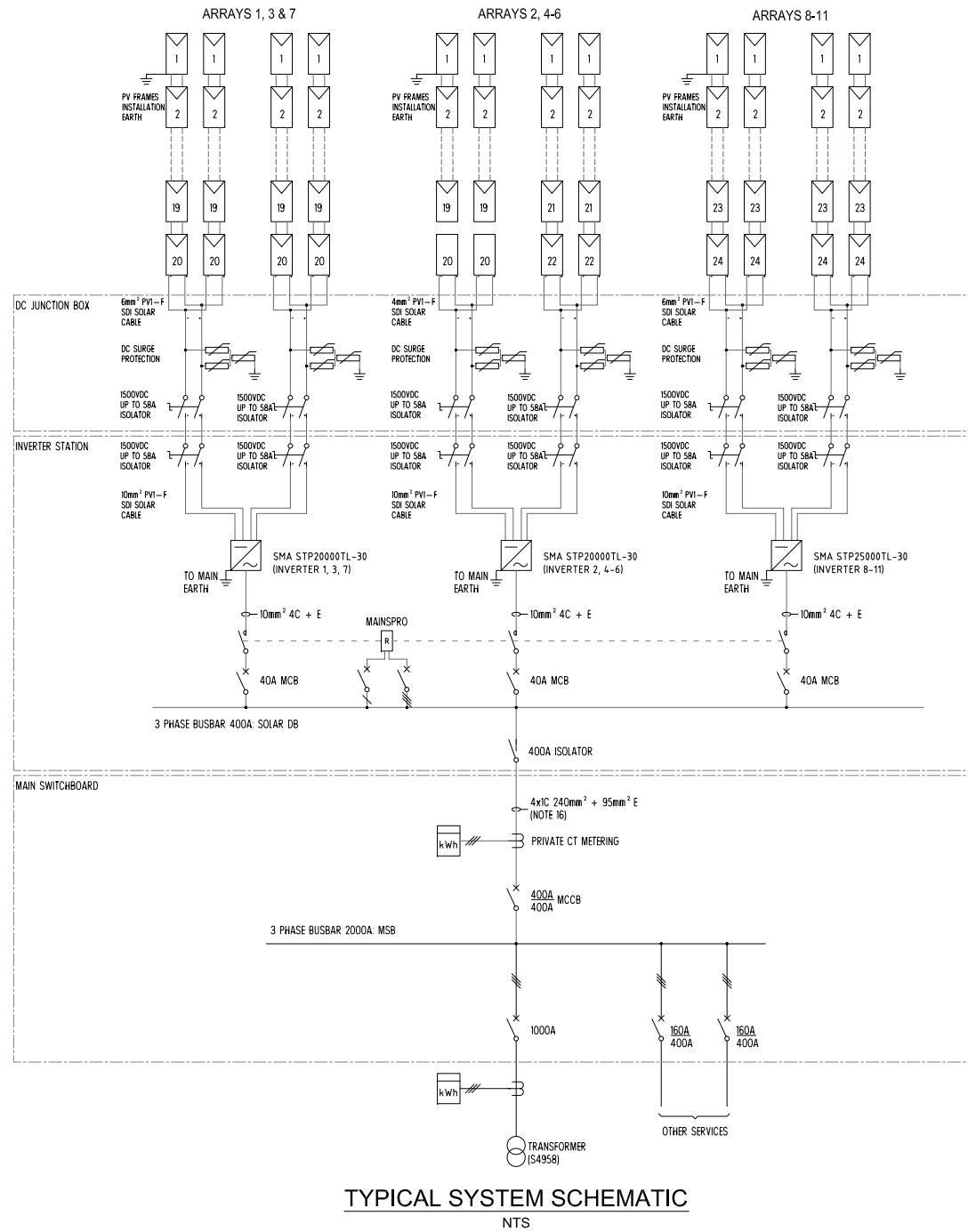
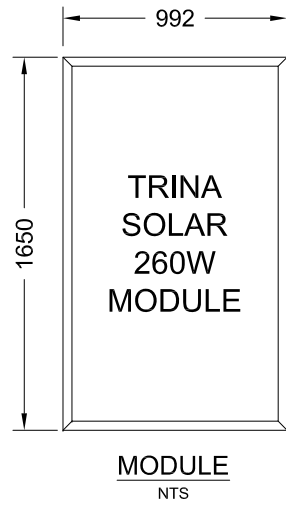


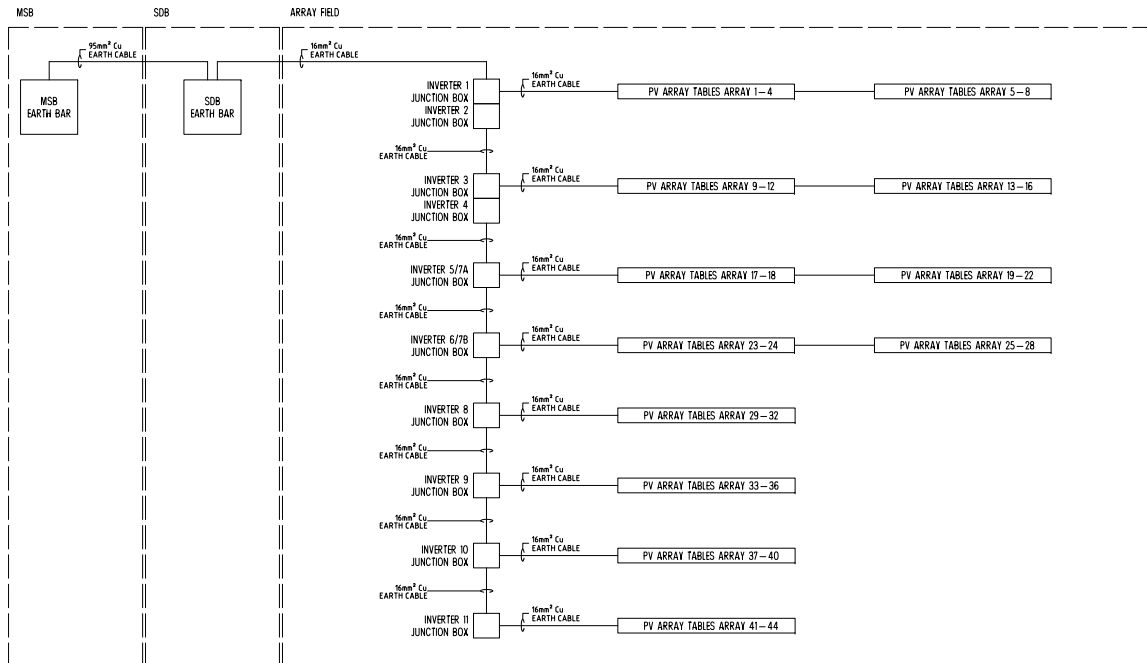


1. Technology: Solar PV
2. Maximum Power: 250kW
3. Contribution to fault levels: N/A
4. Size & rating of the relevant Transformer: N/A
5. Single line diagram: refer to following page
6. Protection Systems & Communication Systems: refer to following page
7. Voltage Control and reactive power capability: N/A
8. Details specific to the location of facility: N/A

ITEM	SPECIFICATION	QTY
MODULE	TRINA SOLAR 260W	960
INVERTER	SMA STP 25000TL	4
	SMA STP 20000TL	7
<b>TOTAL</b>		<b>249.60kWp</b>

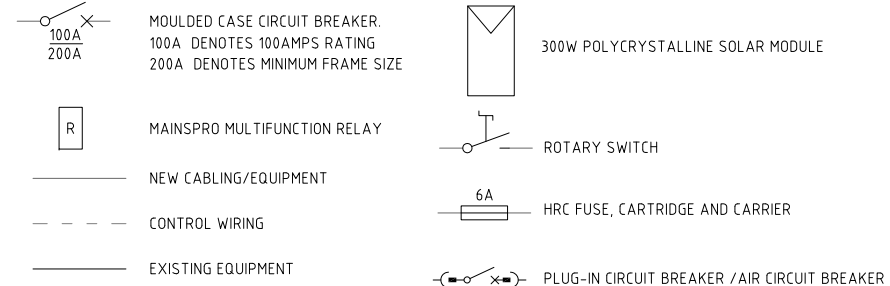
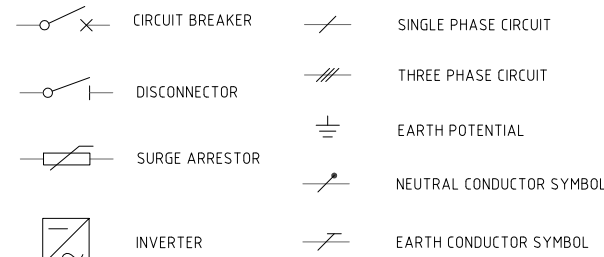


TYPICAL SYSTEM SCHEMATIC  
NTS



SOLAR DC EARTHING SCHEMATIC

LEGEND:



ARRAY 1,3 & 7

Panel Type	MPPT1		MPPT2	
	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P
Number of Panels in Series (N)	20	20	20	20
Number of Parallel Strings	2	2	2	2
Total Number of Panels	80			
Inverter Type	SMA STP20000TL-30			
Number of Individual MPPT's	2			
Rated Power (W)	10404	10404		
Total Rated Power (W)	20808			
Panel Voc (V)	38.2	38.2		
Panel Isc (A)	9	9		
Fill Factor (%)	0.756544503	0.756544503		
Input Voc (V)	764	764		
Input Isc (A)	18	18		
PV Array Max Voltage	825.12	825.12		
Distance to Y-Connector (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	1.30	1.30		
Cable Size selected (mm2)	4	4		
Voltage drop (%)	0.32	0.32		
String Protection Needed	NO			
Distance to Junction Box (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	2.59	2.59		
Cable Size selected (mm2)	6	6		
Voltage drop (%)	0.43	0.43		
DC Isolation min voltage [per pole rating] (V)	825.12	825.12		
DC Isolation min Current (A)	22.50	22.50		
Distance to Inverter (m)	268			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	21.72	21.72		
Cable Size selected (mm2)	10	10		
Voltage drop (%)	2.17	2.17		
DC Isolation min voltage [per pole rating] (V)	825.12	825.12		
DC Isolation min Current (A)	22.50	22.50		
Phases output	3			
Max AC current [per phase, line to neutral] (A)	29.00			
AC Breaker min Current (A)	29.00			
AC Breaker max Current (A)	58.00			
AC Breaker Chosen (A)	32			
Distance to POC (m)	5.00			
Cable Impedance (Ohm*mm2/m)	0.018			
Min cable size (mm2)	2.18			
AC Cable size (mm2)	10.00			

ARRAY 2, 4-6

Panel Type	MPPT1		MPPT2	
	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P
Number of Panels in Series (N)	20	22	20	22
Number of Parallel Strings	2	2	2	2
Total Number of Panels	84			
Inverter Type	SMA STP20000TL-30			
Number of Individual MPPT's	2			
Rated Power (W)	10404	11445		
Total Rated Power (W)	21849			
Panel Voc (V)	38.2	38.2		
Panel Isc (A)	9	9		
Fill Factor (%)	0.756544503	0.756544503		
Input Voc (V)	764	840.4		
Input Isc (A)	18	18		
PV Array Max Voltage	825.12	907.63		
Distance to Y-Connector (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	1.30	1.18		
Cable Size selected (mm2)	4	4		
Voltage drop (%)	0.32	0.29		
String Protection Needed	NO			
Distance to Junction Box (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	2.59	2.36		
Cable Size selected (mm2)	6	6		
Voltage drop (%)	0.43	0.39		
DC Isolation min voltage [per pole rating] (V)	825.12	907.63		
DC Isolation min Current (A)	22.50	22.50		
Distance to Inverter (m)	268			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	21.72	19.75		
Cable Size selected (mm2)	10	10		
Voltage drop (%)	2.17	1.97		
DC Isolation min voltage [per pole rating] (V)	825.12	825.12		
DC Isolation min Current (A)	22.50	22.50		
Phases output	3			
Max AC current [per phase, line to neutral] (A)	29.00			
AC Breaker min Current (A)	29.00			
AC Breaker max Current (A)	58.00			
AC Breaker Chosen (A)	40			
Distance to POC (m)	5.00			
Cable Impedance (Ohm*mm2/m)	0.018			
Min cable size (mm2)	2.18			
AC Cable size (mm2)	10.00			

ARRAY 8-11

Panel Type	MPPT1		MPPT2	
	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P	Trina-Honey 260P
Number of Panels in Series (N)	24	24		
Number of Parallel Strings	2	2		
Total Number of Panels	96			
Inverter Type	SMA STP25000TL-30			
Number of Individual MPPT's	2			
Rated Power (W)	12485	12485		
Total Rated Power (W)	24970			
Panel Voc (V)	38.2	38.2		
Panel Isc (A)	9	9		
Fill Factor (%)	0.756544503	0.756544503		
Input Voc (V)	916.8	916.8		
Input Isc (A)	18	18		
PV Array Max Voltage	990.14	990.14		
Distance to Y-Connector (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	1.08	1.08		
Cable Size selected (mm2)	4	4		
Voltage drop (%)	0.27	0.27		
String Protection Needed	NO			
Distance to Junction Box (m)	32			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	2.16	2.16		
Cable Size selected (mm2)	6	6		
Voltage drop (%)	0.36	0.36		
DC Isolation min voltage [per pole rating] (V)	990.14	990.14		
DC Isolation min Current (A)	22.50	22.50		
Distance to Inverter (m)	268			
DC Cable Resistance (Ohm*mm2/m)	0.0172			
Min cable size (mm2)	18.10	18.10		
Cable Size selected (mm2)	10	10		
Voltage drop (%)	1.81	1.81		
DC Isolation min voltage [per pole rating] (V)	990.14	990.14		
DC Isolation min Current (A)	22.50	22.50		
Phases output	3			
Max AC current [per phase, line to neutral] (A)	36.19			
AC Breaker min Current (A)	36.19			
AC Breaker max Current (A)	72.38			
AC Breaker Chosen (A)	40			
Distance to POC (m)	5.00			
Cable Impedance (Ohm*mm2/m)	0.018			
Min cable size (mm2)	2.71			
AC Cable size (mm2)	10.00			



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- THIS DRAWING IS THE COPYRIGHT OF SOLGEN ENERGY PTY LTD AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE EXPRESS PERMISSION OF SOLGEN ENERGY PTY LTD.
- DO NOT SCALE FROM THE DRAWINGS.
- NEUTRAL TO METER AND EARTH NOT SHOWN FOR CLARITY.
- COMMUNICATIONS AND METERING ARRANGEMENTS FOR ILLUSTRATION PURPOSES ONLY.
- REFER TO THE SYSTEM SPECIFICATION FOR FULL SYSTEM DETAILS.
- CABLE SIZED ACCORDINGLY FOR THE APPROPRIATE RATINGS. ACTUAL CABLE LENGTHS SHALL BE DETERMINED ON SITE.
- PV MODULES: IEC 61215, IEC61730, CLASS II.
- INVERTER: SMA SUNNY TRI POWER.
- VOLTAGE DROP ACROSS ANY CONDUCTOR MUST NOT BE GREATER THAN 1%.
- ALL JUNCTION BOXES ARE MINIMUM IP65 RATED.
- SOLAR POWER SYSTEM COMPLIES WITH CLASS II INSTALLATION.
- INSTALLATION TO COMPLY WITH AS4777, AS5033, AS3000, STATE SERVICE AND INSTALLATION RULES AND DNSP RULES.
- SOLAR AC SWITCHGEAR SIZED FOR MAXIMUM INVERTER AC OUTPUT.
- WHEN INSTALLING TRANSFORMERLESS INVERTERS ALL EXPOSED CONDUCTIVE METAL PARTS OF THE PV ARRAY INCLUDING FRAMES AND STRUCTURAL METAL PARTS SHALL BE BONDED TO EARTH PROVIDING EQUIPOTENTIAL BONDING OF ALL INSTALLED EQUIPMENT.
- THIS SCHEMATIC IS FOR ILLUSTRATION PURPOSES ONLY.
- ALTERNATE CABLING OF 8x1c 70mm² + 95mm² E MAY BE USED. REQUIREMENT TO BE VERIFIED ON-SITE.

Rev	Description	Date
E	WIRING UPDATED	08.05.15
D	LAYOUT UPDATED	01.05.15
C	EARTHING SCHEMATIC ADDED	27.04.15
B	DETAILS ADDED	19.01.15
A	DETAILED DESIGN	28.10.14

PROJECT:

CLIENT:

SOLGEN ENERGY PTY LTD

DRAWING TITLE:  
249.60KW PHOTOVOLTAIC  
SYSTEM SCHEMATIC  
SITE B

SCALE	DRAWN	CHECKED	AUTHORISED	SIZE
AS SHOWN				A3

DRAWING No.	Rev
D-EL-15680P1-202	E