Section 1 – Introduction

Introduction

Removal and Replacement of the Grid Connected Solar PV System at Edinburgh College.

Project Information

Equipment installed		
Description	***Quantity***	***Make/Model***
PV Module	1496	Astronergy Astro N5s
PV Framework		New PV Panels were mounted to existing frames
Inverter	5	Sunny TriPower Core2
Monitoring Equipment for G100	1	Solis - Data Manager M
	1	Solis - Energy Meter
	1	Solis - Controller Power Supply
Mesh & Wire Fencing	1	CLD Eclipse - Profiled rigid Mesh Panel System

Total Installed Capacity	650 kWp
Declared Net Capacity	550 kWp
Total number of PV Modules	1496
Nominal AC power of inverter(s)	110 kW
Annual energy yield	864 kWh
Annual C02 Emissions avoided	130 k/Kg

Key dates	
Commissioning date:	24/01/2025

ASTRONERGY

ASTRO N5s

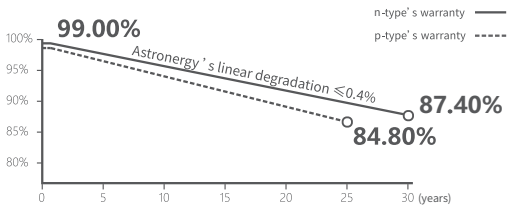
CHSM54N(BL)-HC
CHSM54N(BLH)-HC
Monofacial Series

420~440W

Warranty

15 15-year Product Warranty

30 30-year Linear Power Warranty



Key Features

- Suitable for distributed projects
- High power
- High reliability
- Easy to install and transport

Assist carbon neutrality

ISO 9001:2015:ISO Quality Management System
ISO 14001:2015:ISO Environment Management System
ISO 45001:Occupational Health and Safety
The first solar company which passed the Nord IEC/TS 62941 certification audit

TOP PERFORMER PVEL member of group kiwa

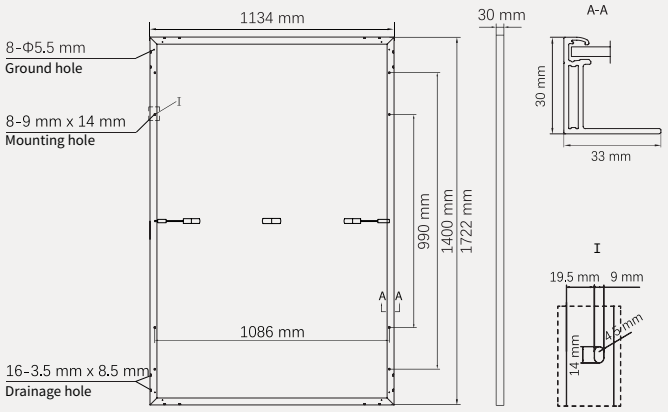
Tier 1 BloombergNEF

Underwritten by International Insurer

420~440W	0~+3%	22.5%	≤ 1.0%	≤ 0.4%
POWER RANGE	POWER SORTING	MAX MODULE EFFICIENCY	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION

Mechanical Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	108 (6*18)
Frame technology	Aluminum, black anodized
Front glass thickness	3.2 mm
Cable length (Including connector)	Portrait: (+)350 mm,(-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm^2 / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4, MC4-EVO2A (Optional)
Module weight	21.3 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	811 kg
Modules per 40' HQ container	936 pcs (Subject to sales contract)



① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

Electrical Specifications

STC: Irradiance 1000W/m^2, Cell Temperature 25° C, AM=1.5

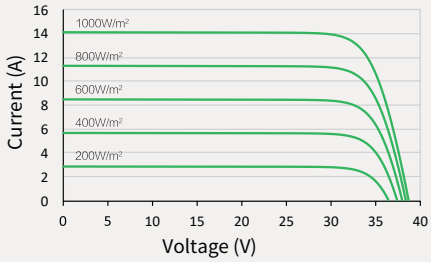
Rated output (Pmpp / Wp)	420	425	430	435	440
Rated voltage (Vmpp / V)	31.93	32.10	32.27	32.44	32.61
Rated current (Impp / A)	13.15	13.24	13.33	13.41	13.49
Open circuit voltage (Voc / V)	38.00	38.20	38.40	38.60	38.80
Short circuit current (Isc / A)	13.87	13.98	14.09	14.19	14.30
Module efficiency	21.5%	21.8%	22.0%	22.3%	22.5%

NMOT: Irradiance 800W/m^2, Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

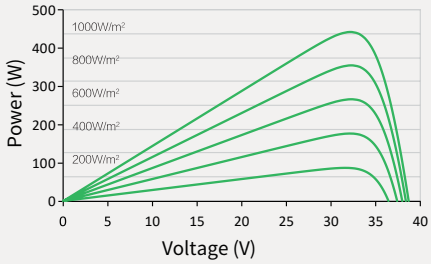
Rated output (Pmpp / Wp)	315.8	319.6	323.4	327.1	330.9
Rated voltage (Vmpp / V)	30.06	30.21	30.37	30.53	30.70
Rated current (Impp / A)	10.51	10.58	10.65	10.71	10.78
Open circuit voltage (Voc / V)	36.10	36.29	36.48	36.67	36.85
Short circuit current (Isc / A)	11.20	11.28	11.37	11.46	11.54

Curve

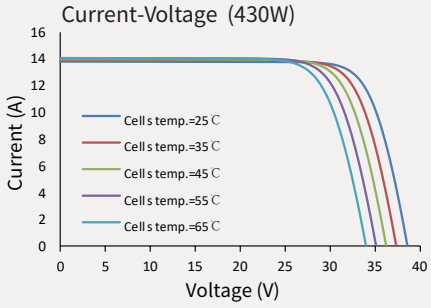
Current-Voltage (430W)



Power-Voltage (430W)



Current-Voltage (430W)



Temperature Ratings (STC)

Temperature coefficient (Pmpp)	-0.29%/°C
Temperature coefficient (Isc)	+0.043%/°C
Temperature coefficient (Voc)	-0.25%/°C
Nominal module operating temperature (NMOT)	41±2°C

Operating Parameters

No. of diodes	3
Junction box IP rating	IP 68
Max. series fuse rating	25 A
Max. system voltage (IEC/UL)	$1000V_{DC}$ or $1500V_{DC}$

www.astronergy.com

SUNNY TRIPOWER CORE2
STP 110-60

More flexibility

- For large rooftop and ground-mounted systems up to the MW range
- 12 MPP trackers
- 24 strings with 1100 V_{DC} Sunclix connectors
- Integrated arc-fault circuit interrupter (AFCI)

More power

- 110 kW for standard 400 V_{AC}
- Fast commissioning without additional DC combiners
- Peak efficiency of 98.6%

More yield

- Premium monitoring service for reliable system performance
- Maximum yields thanks to the integrated software solution SMA ShadeFix

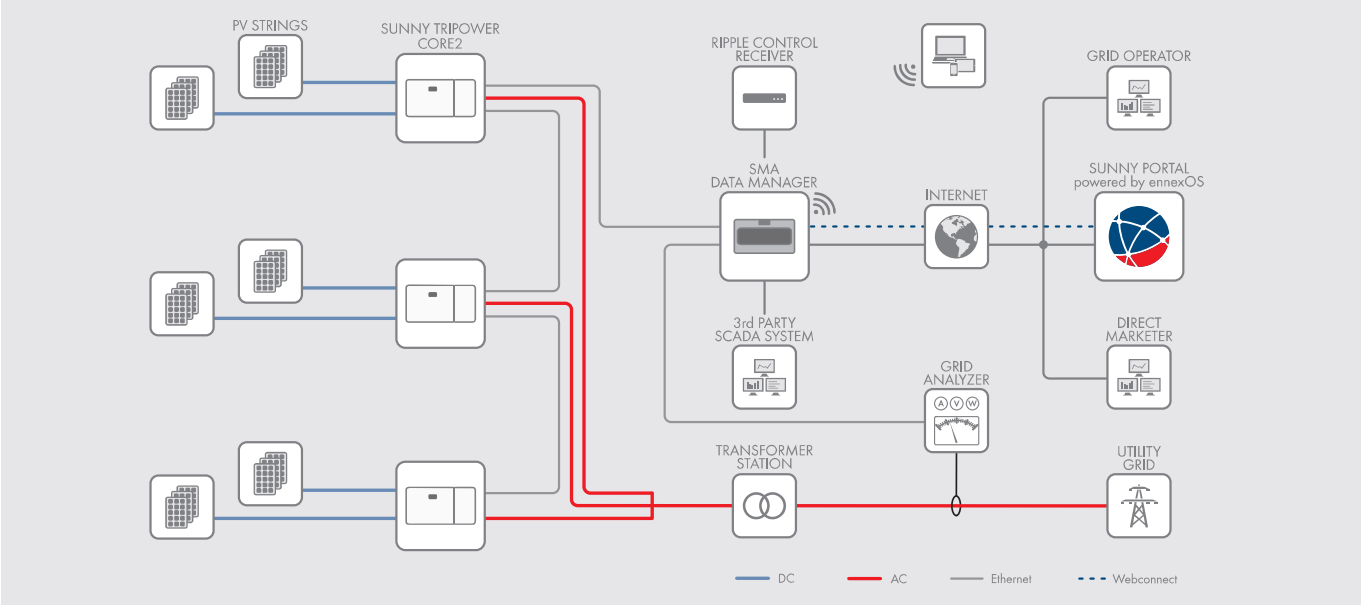
More system integration

- Flexible and future-proof expansion due to seamless system integration with the SMA Energy System Business
- Holistic energy management with ennexOS
- High IT security

SUNNY TRIPOWER CORE2

Flexible system design and highest yields thanks to integrated features

Flexible system design for larger commercial PV systems: The Sunny Tripower CORE2 is the ideal inverter for decentralized system structures up to the megawatt range. With 110 kilowatts, 24 strings and 12 MPP trackers, the Sunny Tripower CORE2 allows for a particularly high solar coverage in ground-mounted PV systems as well as at different roof pitches during the day. The integrated SMA ShadeFix software solution automatically optimizes system performance anytime, even with partially shaded modules. The automatic inverter monitoring service SMA Smart Connected also ensures maximum PV system yields by detecting failures as fast as possible. The integrated arc-fault circuit interrupter AFCI contributes additionally to the safety. With the Sunny Tripower CORE2 as a central component of the SMA Energy System Business, installers and PV system operators will benefit from the high-quality components from a single source and future-proof options to expand their systems with SMA storage solutions.



Technical data*	Sunny Tripower CORE2
Input (DC)	
Max. PV array power	165000 Wp STC
Max. input voltage	1100 V
MPP voltage range	500 V to 800 V
Rated input voltage	585 V
Min. input voltage / Start input voltage	200 V / 250 V
Max. useable input current per MPP tracker / Max. short-circuit current per MPP tracker	26 A (22 A < 600 V) / 40 A
Number of independent MPP trackers / Strings per MPP tracker	12 / 2
Output (AC)	
Rated power (at 400 V, 50Hz)	110000 W
Rated / Max. apparent power	110000 VA / 110000 VA
Rated voltage	400 V
Voltage range	320 V to 460 V
Grid frequency / range	50 Hz / 45 Hz to 55 Hz 60 Hz / 55 Hz to 65 Hz
Rated grid frequency	50 Hz
Rated output current / max. output current	158.8 A / 158.8 A
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited
Harmonic (THD)	< 3%
Feed-in phases / AC connection	3 / 3-PE
Efficiency	
Max. efficiency / European efficiency	98.6% / 98.4%
Protective devices	
Input-side disconnection device	●
Ground fault monitoring / grid monitoring / DC reverse polarity protection	● / ● / ●
AC short-circuit current capability / galvanically isolated	● / –
All-pole sensitive residual-current monitoring unit	●
Monitored surge arrester AC / DC	type 2 / type 1-2*
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 62109-1)	I / AC: III; DC: II
Arc-fault circuit interrupter (AFCI)	●*
General data	
Dimensions (W / H /D)	1117 mm / 682 mm / 363 mm (44.0 in / 26.9 in / 14.3 in)
Weight	93.5 kg (206.1 lbs)
Operating temperature range	–30 °C to +60 °C (–22 °F to +140 °F)
Noise emission, maximum (1m)	78 db(A)
Self-consumption (at night)	< 5 W
Topology / cooling concept	Transformerless / active cooling
Degree of protection (according to IEC 60529)	IP66
Max. permissible value for relative humidity (non-condensing)	100%
Features / functions / accessories	
DC connection / AC connection	Sunclix / terminal lug (up to 240 mm²)
LED display (Status / Fault / Communication)	●
Ethernet interface	● (2 ports)
Data interface	Web Interface / Modbus SunSpec
Mounting type	Wall mounting / rack mounting
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○
Certificates and approvals (selection)	IEC 62109-1/-2, EN50549-1/-2:2018, VDE-AR-N 4105/4110/4120:2018, IEC 62116, IEC 61727, C10/C11 LV2/MV1:2018, CEI 0-16:2019, AS/NZS 4777.2, SI 4777, TOR Generator Typ A/B
Type designation	STP 110-60

● Standard features ○ Optional features – not available Data at nominal conditions Status 11/2023 *) from production date 06/2023, (SMA material number 202724-00.01, Australia: 202725-00.01)

Technical Information

Short-Circuit Currents
Information on short-circuit currents in SMA PV inverters

Sunny Tripower, Sunny Highpower, Sunny Tripower Storage

1 Content

During voltage dips, especially complete grid failures, all PV and battery inverters connected to the grid may generate currents that are slightly above the maximum current in normal operating conditions. Such currents are relevant for the correct dimensioning of the wiring and the protective devices, both at the system level and the grid level.

Grid operators frequently ask manufacturers of PV and battery inverters to provide maximum values of short-circuit currents. In other cases, the manufacturers are asked to provide characteristic values such as I_k and i_p or further electrical values at defined times during a grid failure.

This technical information

- provides characteristic values for the short-circuit currents of individual PV and battery inverters from SMA that result from testing according to international standards.
- provides information on the difference between the short-circuit current contribution by a conventional power generator and a PV inverter or battery inverter.

2 Response to Voltage Dips

PV and battery inverters are not equivalent to conventional electrical generators in terms of their behavior during voltage dips.

The following figure shows a comparison with the ideal response to voltage dips by electrical generators:

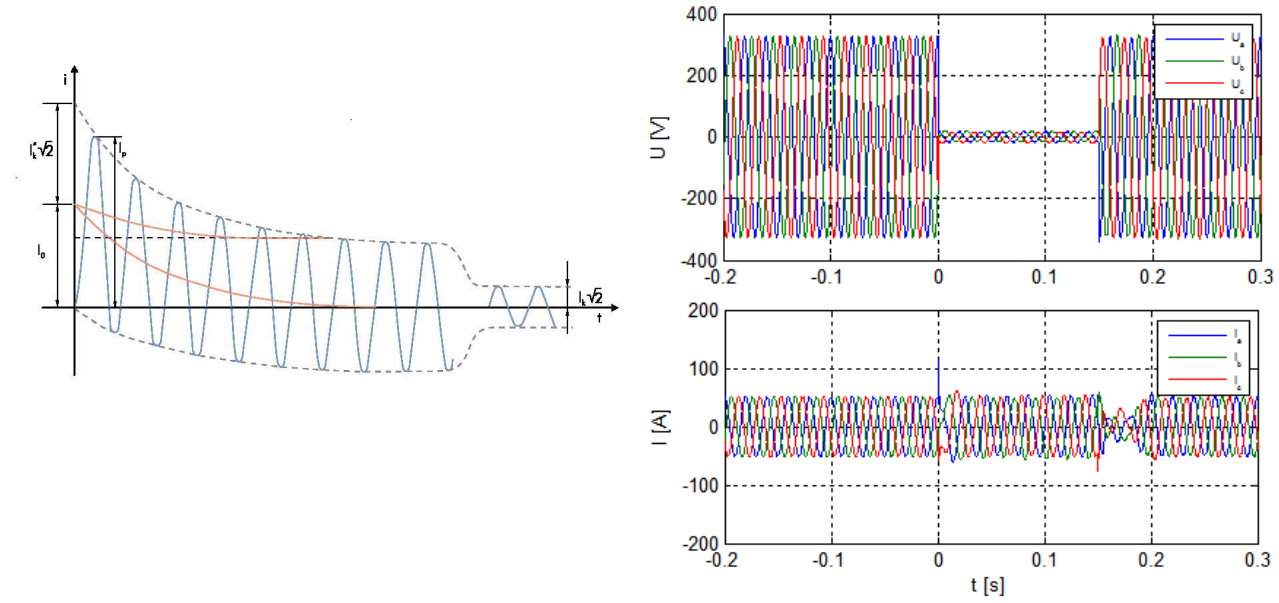


Figure 1: Ideal response to voltage dips (fault ride-through, FRT) by an electrical generator (left) and real response to voltage dips by an inverter in the FRT "full" operating mode (right).

As the figure above shows, the voltage dip causes an immediate response of the inverter with a short-lived current peak caused by its grid filter. Afterwards, the inverter limits the current to its nominal current as fast as possible in order to prevent a thermal overload of the power electronics.

Such behavior is not comparable to the ideal response by an electrical generator. Instead, this behavior can be characterized by means of one static and two dynamic time periods, as shown in the following figure:

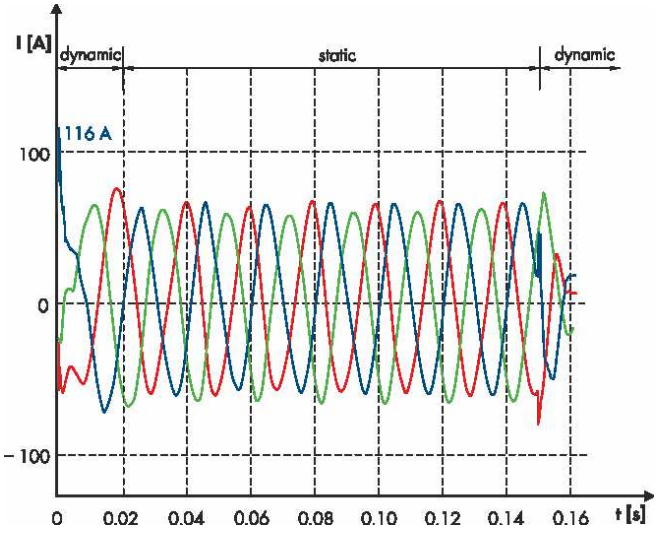


Figure 2: Temporal distribution of the response to voltage dips (PV)

The dynamic time periods in the range of t = 0 s to t = 0.03 s and starting at t = 0.15 s contain both the maximum and minimum values of the current during a short period of time. In the static period, the current remains within a certain tolerable range.

Almost every response of an inverter to various curves of voltage dips can be described by successive dynamic and static time periods. This approach resembles the model validation process used in TR4 certification.

3 Operating Modes During Voltage Dips

3.1 Information on operating modes

The short-circuit current contribution during a voltage dip depends largely on the operation mode of the inverter. The following operation modes can occur and influence the uninterrupted short-circuit current I_k.
Note that both operating modes are equally available for riding through overvoltage events (high-voltage ride-through, HVRT).

3.2 Operation Mode Fault Ride-Through "full"

FRT "full" means fault ride-through including voltage support by a reactive power supply. The inverter remains connected to the utility grid and feeds in reactive current according to a certain parameterizable characteristic curve. The resulting short-circuit current I_k depends on the residual voltage and the pre-fault reactive power supply.

The following table shows the maximum values that are comparable to values for the short-circuit surge current i_p, the initial symmetrical short-circuit current I_k'' and the uninterrupted short-circuit current I_k of conventional generators.

i_p	I_k''	I_k
up to 5 x i_{max}	up to 1.4 x i_{max}	1 x i_{max}

Note that the i_p value is given as an amplitude, whereas the values for I_k'' and I_k are root-mean-square (RMS) values. To see the exact value for each selected SMA inverter, refer to the table hereafter Short-Circuit Current Contributions of Individual SMA Inverters.

The short-circuit surge current i_p is a current peak with a duration of max. 40 µs with no significant area under the characteristic curve of the current. It thus provides much less energy than a conventional generator.

The initial symmetrical short-circuit current I_k'' will not last longer than 50 ms.

The value for the uninterrupted short-circuit current I_k will be reached after 50 ms, at the latest, and will be maintained during the entire duration of the voltage dip.

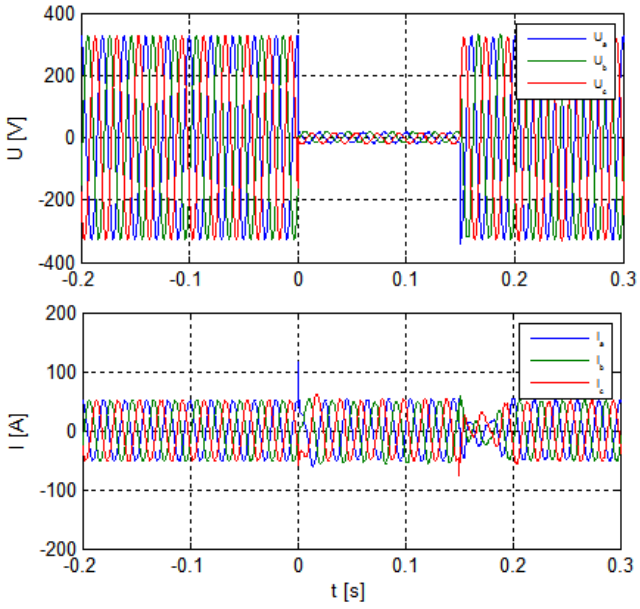


Figure 3: Real response to a 5% Vn voltage dip by the PV inverter STP 25000TL-30 in the FRT "full" operation mode.

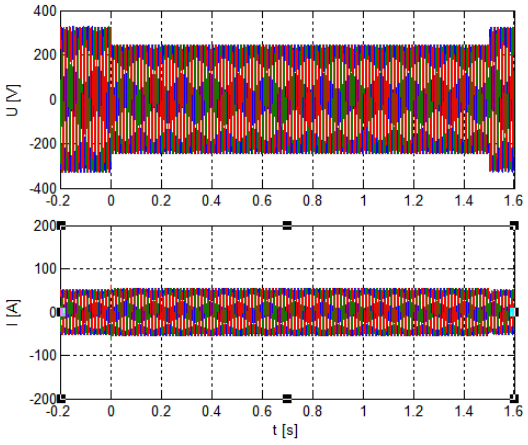
3.3 Operation Mode Fault Ride-Through "partial"

FRT "partial" means a fault ride-through without supplying current during the dip.

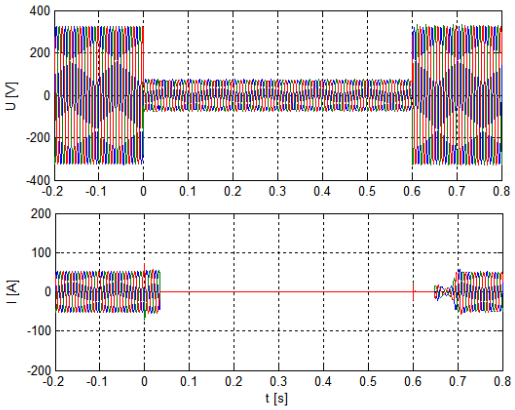
The inverter stops feeding in current (both active and reactive) as soon as the grid voltage falls below a certain threshold.
However, the inverter does not disconnect. It remains ready for operation and continues to feed in current immediately after fault clearance.

Depending on the depth of the voltage dip, two cases can be distinguished during the voltage dip if the inverter operation mode is set to FRT "partial":

1. If the voltage is higher than the FRT threshold, the inverter rides through such dips as long as the maximum current is not reached. The figure on the right shows the actual response of a PV inverter STP 25000TL-30 to a 75% Vn voltage dip with the FRT threshold set to 70% Vn.



2. If the voltage threshold is reached, the inverter immediately stops feeding in current. The I_k will be zero. Since the electric current of the grid filter cannot be controlled by the inverter, an i_p value may occur according to the table hereafter Short-Circuit Current Contributions of Individual SMA Inverters. Please note that no significant energy is stored in the grid filter. The figure on the right shows the actual response of a PV inverter STP 25000TL-30 to a 30% Vn voltage dip with the FRT threshold set to 70% Vn.



SMA inverters of the Sunny Tripower, Sunny Tripower Storage and Sunny Highpower families can operate in both of the above-mentioned operating modes, including high-voltage ride-through (HVRT).

SMA inverters of the Sunny Boy family can operate only in the FRT "partial" operating mode.

4 Short-Circuit Current Contributions of Individual SMA Inverters

At an international level, the IEC 61400-21 standard describes testing procedures for wind farms that can be easily applied to PV inverters. In some countries, such as Germany (TR3, Technical Guidelines for Power Generating Units, Part 3, FGW e.V.) and Italy (CEI 0-21 and CEI 0-16), there are specific standard requirements for testing the capability of "riding through" grid-voltage dips.

The instantaneous values of alternating currents and alternating voltages are recorded synchronously with 50 kHz (20 µs). Basic frequencies of the co-system based on measurement of instantaneous voltages and currents are calculated according to IEC 61400-21. All results are measured as half-period RMS values.

The following table shows the test results for the following SMA PV and battery inverters of type Sunny Tripower, Sunny Highpower and Sunny Tripower Storage:

Inverter type	Short-circuit surge current i_p (A)	Symmetrical initial short-circuit current I_k'' (A)	Uninterrupted short-circuit current I_k (A)		Maximum current I_{max} (A)
			FRT "full"	FRT "partial"	
Sunny Highpower					
SHP 75-10	301.20	128.40	111.3	0	109.0
SHP 100-20 / SHP100-21	318.67	166.39	151.0	0	144.3
SHP 125-US-20 / SHP125-US-21	324.16	173.72	151.0	0	150.4
SHP 150-20 / SHP 150-US-20 / SHP150-21 / SHP150-US-21	318.28	170.34	151.0	0	144.3
SHP165-US-21	329.75	175.56	151	0	151
SHP172-21 / SHP172-US-21	328.66	174.97	151	0	150.5

Inverter type	Short-circuit surge current i_p (A)	Symmetrical initial short-circuit current I_k'' (A)	Uninterrupted short-circuit current I_k (A)		Maximum current I_{max} (A)
			FRT "full"	FRT "partial"	
SHP180-21	328.88	175.09	151	0	150.6
Sunny Island					
SI30-20	151.1	61.0	45.6	0	45.6
SI50-20	179.6	90.2	75.5	0	75.5
SI27-US208-20	161.9	92.7	75.5	0	75.5
SI60-US480-20	190.0	95.4	75.5	0	75.5
Sunny Tripower					
STP3.0-3AV-40	46.37	7.55	4.6	0	4.6
STP4.0-3AV-40	46.91	9.06	6.1	0	6.1
STP5.0-3AV-40	46.53	10.41	7.6	0	7.6
STP6.0-3AV-40	46.46	11.47	9.1	0	9.1
STP8.0-3AV-40	65.47	11.90	11.6	0	11.6
STP10.0-3AV-40	82.87	14.83	14.5	0	14.5
STP 15000TL-30	84.29	30.45	29	0	21.7
STP 20000TL-30	98.58	31.07	29	0	29
STP 25000TL-30	116.37	40.06	36.2	0	36.2
STP 50-40 / STP 50-41	185.56	85.91	72.5	0	72.5
STP 50-US-40	154.69	75.02	64.0	0	60.2
STP 33-US-41	144.61	48.95	40.0	0	39.7
STP 50-US-41	170.17	74.21	64.0	0	60.2
STP 62-US-40	193.47	89.54	79.95	0	75.3
STP 110-60	300.00	175.00	158.8	0	158.8
STP 12-50	106.84	38.3	36.6	0	36.6
STP 15-50	101.42	42.53	36.6	0	36.6
STP 20-50	95.68	43.06	36.6	0	36.6
STP 25-50	100.01	42.73	36.6	0	36.6
Sunny Tripower Storage					

Inverter type	Short-circuit surge current i_p (A)	Symmetrical initial short-circuit current I_k'' (A)	Uninterrupted short-circuit current I_k (A)		Maximum current I_{max} (A)
			FRT "full"	FRT "partial"	
STPS30-20	151.1	61.0	45.6	0	45.6
STPS50-20	179.6	90.2	75.5	0	75.5

Note that the i_p values are given as an amplitude, whereas the values for I_k'' and I_k are RMS values.

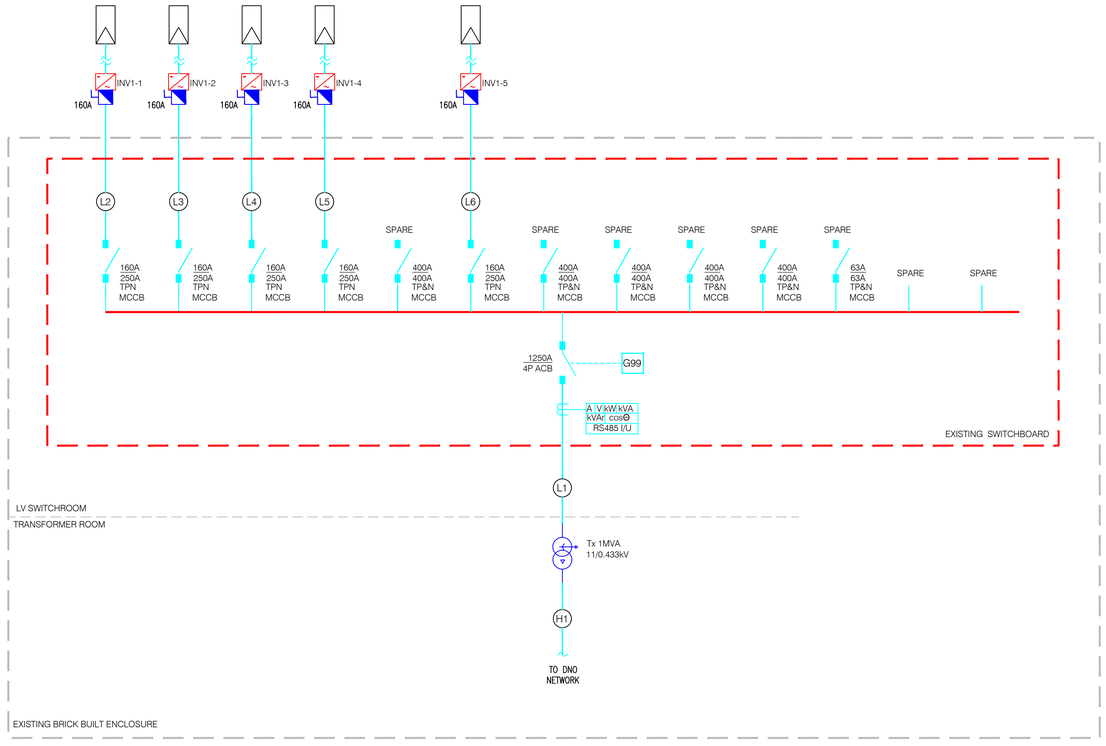
The values for I_k'' and i_p were measured during the certification process (TR3, CEI 0-16) by an accredited test institute and are comparable to the characteristic values defined in DIN EN 60909. These values represent the maximum values of all tests.

ENERGY
THAT
CHANGES

www.SMA-Solar.com

SUB-MAINS CABLE SCHEDULE

CABLE REF	CABLE SIZE AND TYPE	DESCRIPTION
L1	EXISTING RATING AND TYPE UNKNOWN	PV SW/BOARD TO EXISTING TRANSFORMER
L2	120mm² 4C XLPE.SWA.LSF	LV SW/BOARD TO INVERTER 1
L3	120mm² 4C XLPE.SWA.LSF	LV SW/BOARD TO INVERTER 2
L4	120mm² 4C XLPE.SWA.LSF	LV SW/BOARD TO INVERTER 3
L5	120mm² 4C XLPE.SWA.LSF	LV SW/BOARD TO INVERTER 4
L6	120mm² 4C XLPE.SWA.LSF	LV SW/BOARD TO INVERTER 5
H1	EXISTING RATING AND TYPE UNKNOWN	EXISTING INCOMING HV CABLING



LEGEND

A V kW kVA kVAr cosΘ RS485 I/U — DIGITAL kWh METER (EXISTING)

G99 — G99 CONTROL VIA COMAP MAINS PRO

80A — TRIPPING ELEMENT RATING
125A — FRAME SIZE/TYPE
TP&N — 3φ & NEUTRAL / 4 POLE
MCCB — PROTECTIVE DEVICE TYPE

NEW MCCBs ARE SCHNEIDER COMPACT NSX C/W MICROLOGIC 2.3 PROTECTION

160A — 3-PHASE ISOLATOR IP RATED FOR EXTERNAL MOUNTING

SOLAR PV INVERTER AS: SMA SUNNY TRIPOWER CORE 2 110kW

Notes

1. THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH BS 7671 - IET WIRING REGULATIONS, BS 7430 - CODE OF PRACTICE FOR PROTECTIVE EARTHING SYSTEMS AND CODE OF PRACTICE FOR GRID CONNECTED PHOTOVOLTAIC SYSTEMS.
2. THE EXISTING PV SWITCHBOARD REQUIRED MODIFICATION TO ACCEPT THE NEW PROTECTION DEVICE TYPES AND RATINGS.
3. THE EXISTING PV SWITCHBOARD G59 PROTECTION SYSTEM HAS BEEN UPGRADED TO G99 TO MEET CURRENT STANDARDS.
4. ALL EQUIPMENT HAS BEEN INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.

Rev	Description of Revision	Date
Revision History		

Rev	Description of Revision	Date
AI	AS INSTALLED	10/24
P01	PRELIMINARY ISSUE	07/23
Revision History		

FES Support Services
Forth House
Pirnhall Business Park
Stirling, FK7 8HW
Tel. 01786 819 600
Fax. 01786 811 456

Project
Edinburgh College
Solar Meadow Refit

Drawing Title
PV Distribution Schematic
(Ground mount - Grid Connected)

Scale: NTS	Date: JUL 23
Issue Status: Preliminary	Sheet: A1
Drawn: AJB	Checked: JR
Drawing Number: REN1159-60-002	Revision: AI

PV Inverters / Other Equipment

RJ45 Ethernet connections to PV Inverters

(SMA Can be exchanged for PV Inverter Manufacturers equivalent)

24V

SMA Power Supply Unit

SMA Data Manager M

24V

RJ45 Ethernet

Ambient Temperature Sensor

3S-AT-PT1000

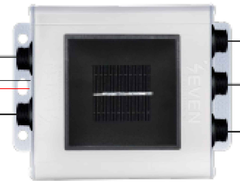
3S-IS-4-RH/AT

Wind Speed Sensor

3S-WS-PLS

Irradiance Sensor
(Pv Pyronometer)

RS485
Modbus RTU



24V

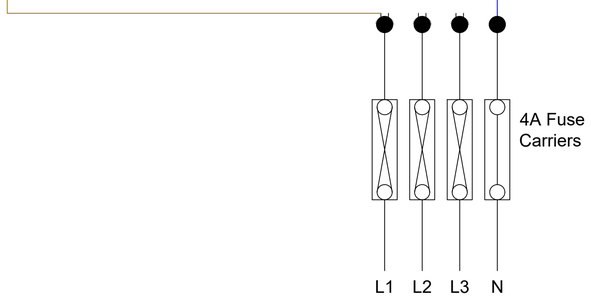
Brown	Power (+)
White	Power (-)
Green	(RS485 A / Data (+))
Yellow	(RS485 B / Data (-))

Relative Humidity Sensor

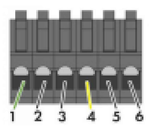
3S-RH&AT

3S-MT-PT1000

Module Temperature Sensor



Plug assignment:

Plug	Position	Assignment
	1	Data+ (D+)
	2	Not assigned
	3	Ground (GND)
	4	Data- (D-)
	5	Line termination (optional)
	6	Line termination (optional)

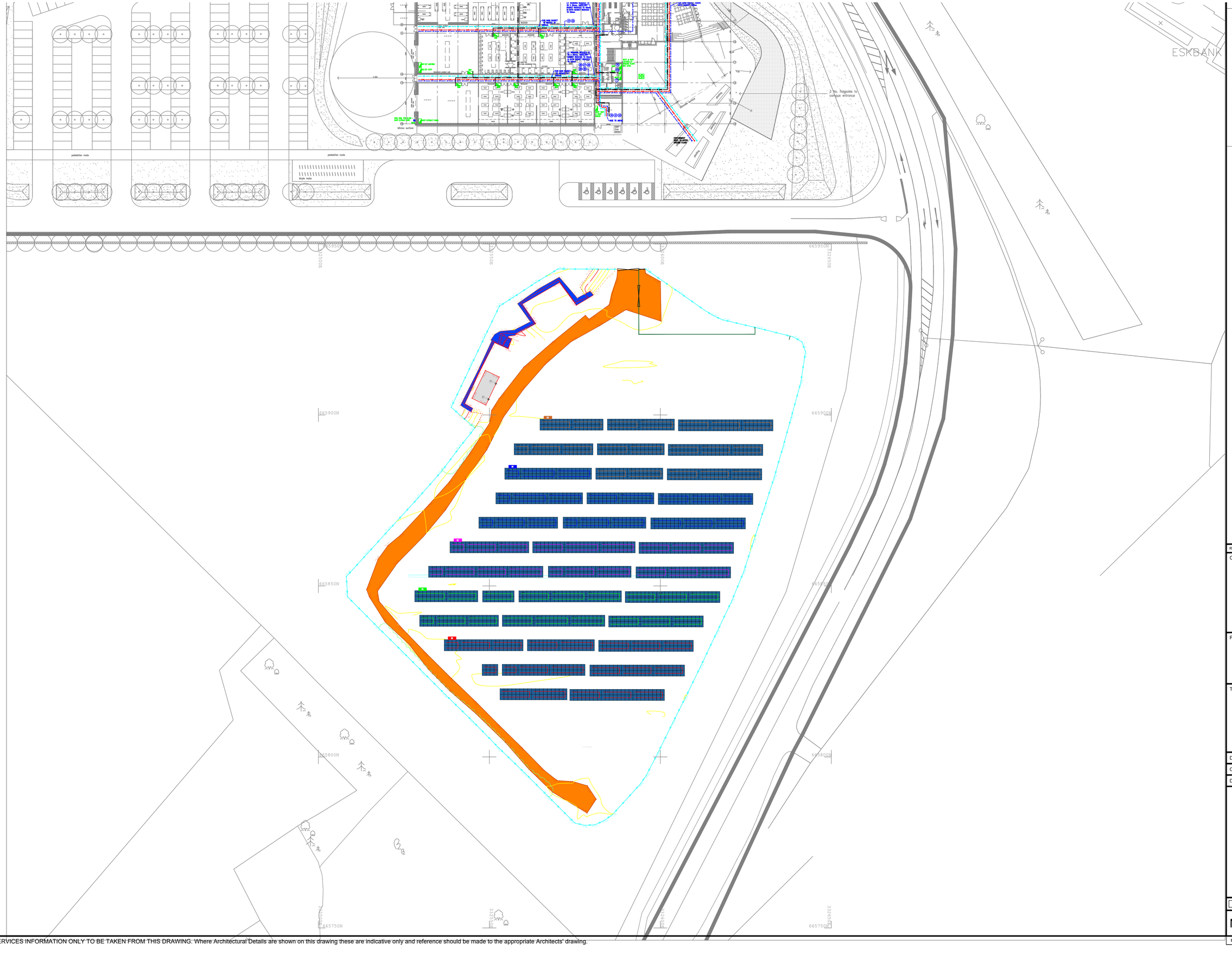
Notes		Components	
		1 x SMA Power Supply unit (SMA-CLCON-PWRSUPPLY) 1 x SMA Data Manager M (Up to 50 Devices) 1 x SEVEN Sensor solutions Irradiance Sensor 1 x SEVEN Sensor solutions Ambient Temp Sensor 1 x SEVEN Sensor solutions Wind Speed Sensor 1 x SEVEN Sensor solutions Module Temp Sensor 1 x SEVEN Sensor solutions Relative Humidity Sensor	

Rev	Description of Revision	Date
Revision History		

Rev	Description of Revision	Date
Revision History		

FES Support Services
Forth House
Pirnhall Business Park
Stirling, FK7 8HW
Tel. 01786 819 600
Fax. 01786 811 456

Project	SSE Edinburgh College Weather Station Equipment Arrangement FES SMA Seven sensor solutions
Drawing Title	Weather Station General Arrangement
Scale	NTS
Date	SEPT 2024
Issue Status	Approved
Sheet	A1
Drawn	MH
Checked	MH
Drawing Number	58109-60-003
Revision	AI



INVERTERS

1	SERIAL NUMBER A2373 108 235
2	SERIAL NUMBER A2373 108 237
3	SERIAL NUMBER A2373 108 208
4	SERIAL NUMBER A2373 108 240
5	SERIAL NUMBER A2373 108 209

Rev	Date	Detail	Made	Chk'd	App'd

Client:

Project:
SSE
Edinburgh College

Title:
Site Layout
Solar PV System
Inverter and String Layout

Design:	IM	CAD:	IM
Chk'd:	IR	App'd:	CM
Date:	Sep 24	Scale:	1:500 @A1

FES Support Services
Forth House
Pinthall Business Park
Stirling, FK7 8HW
Tel. 01786 819 600
Fax. 01786 811 456

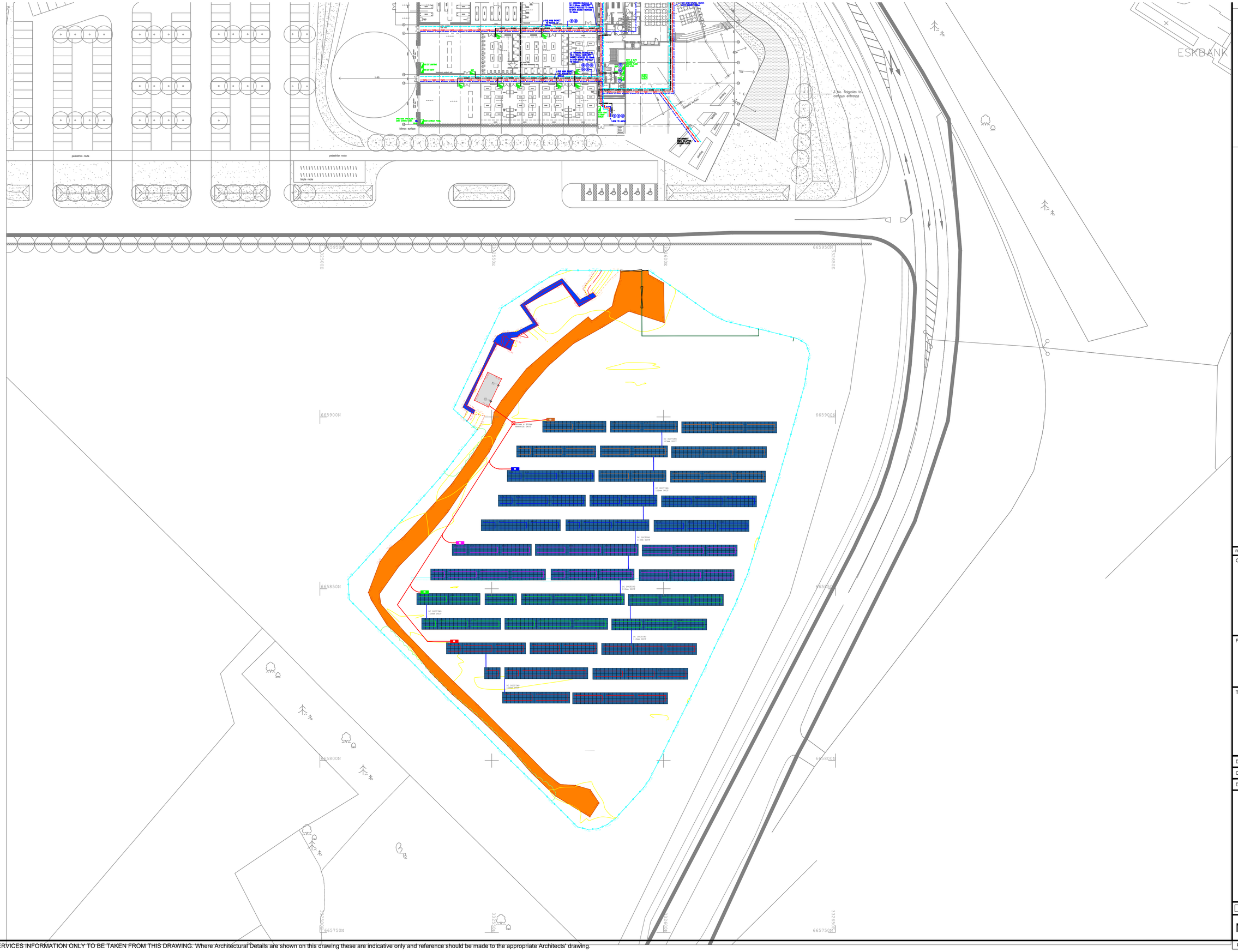
☐ Preliminary ☐ Tender ☐ Approval ☐ Const. ■ As built

No. 58109-90-004

Rev: AI

cm A1

SERVICES INFORMATION ONLY TO BE TAKEN FROM THIS DRAWING. Where Architectural Details are shown on this drawing these are indicative only and reference should be made to the appropriate Architects' drawing.



INVERTERS

1	SERIAL NUMBER A2373 108 235
2	SERIAL NUMBER A2373 108 237
3	SERIAL NUMBER A2373 108 208
4	SERIAL NUMBER A2373 108 240
5	SERIAL NUMBER A2373 108 209

Rev	Date	Detail	Made	Chk'd	App'd

Client:

Project:
SSE
Edinburgh College

Title:
Site Layout
Solar PV System
Cable Trench Layout
AC and DC Cables

Design: IM	CAD: IM
Chk'd: IR	App'd: CM
Date: Sep 24	Scale: 1:500 @A1

FES Support Services
Forth House
Pinthall Business Park
Stirling, FK7 8HW
Tel. 01786 819 600
Fax. 01786 811 456

☐ Preliminary ☐ Tender ☐ Approval ☐ Const. ■ As built

No. 58109-90-005 Rev: AI

cm A1

SERVICES INFORMATION ONLY TO BE TAKEN FROM THIS DRAWING. Where Architectural Details are shown on this drawing these are indicative only and reference should be made to the appropriate Architects' drawing.