

PROJECT DESCRIPTION:

SYSTEM SIZE	67.89KW DC STC
MODULE TYPE	JINKO PANEL
INVERTER TYPE	(1) SOLAR EDGE THREE PHASE SE50K - 50KW

INDEX SHEET

A.00	SITE PLAN
A.01	LAYOUT PLAN
A.02	STRING PLAN
E.00	ELECTRICAL SCHEMATIC
S.00	FRAMING LAYOUT
S.01	INVERTER LAYOUT
D.00-D.03	SPECIFICATION SHEET



C6 SPECTRUM
BUSINESS ESTATE
ANTHONY'S WAY,
ROCHESTER, KENT
ME2 4NP

PRO. DATE		17/05/2024
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CHECKED BY		JD
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03/07/2025	3	Update Roof Plan
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22/07/2025	5	More Panels Add
12/09/2025	6	Layout Change
13/10/2025	7	Layout Change
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PROJECT NAME

MCWFC BUILDING

SHEET NAME

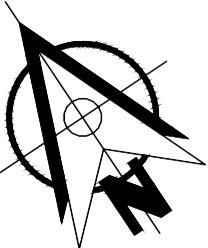
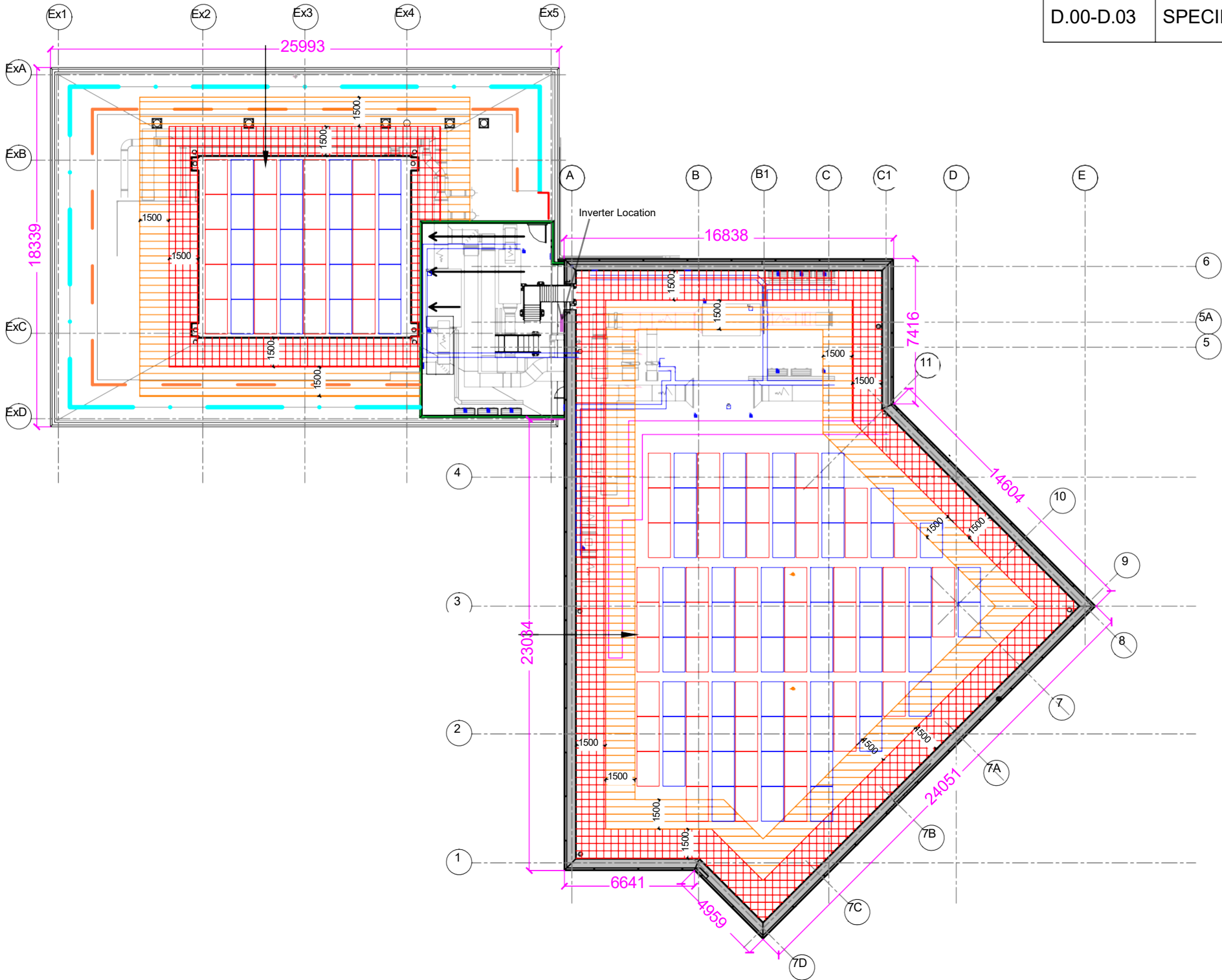
SITE PLAN

SHEET SIZE

ANSI B
279 X 432

SHEET NUMBER

A.00



SITE PLAN

SCALE: 1:250

MODULES AREA & ROOF AREA CALC'S

# OF MODULES	MODULES AREA (Sq. Meter)	ROOF AREA (Sq. Meter)	ROOF AREA COVERED BY MODULES (%)
146	290.54	1119.02	25.96

LEGENDS

EAST FACING MODULE



WEST FACING MODULE



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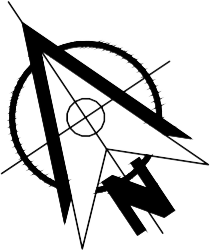
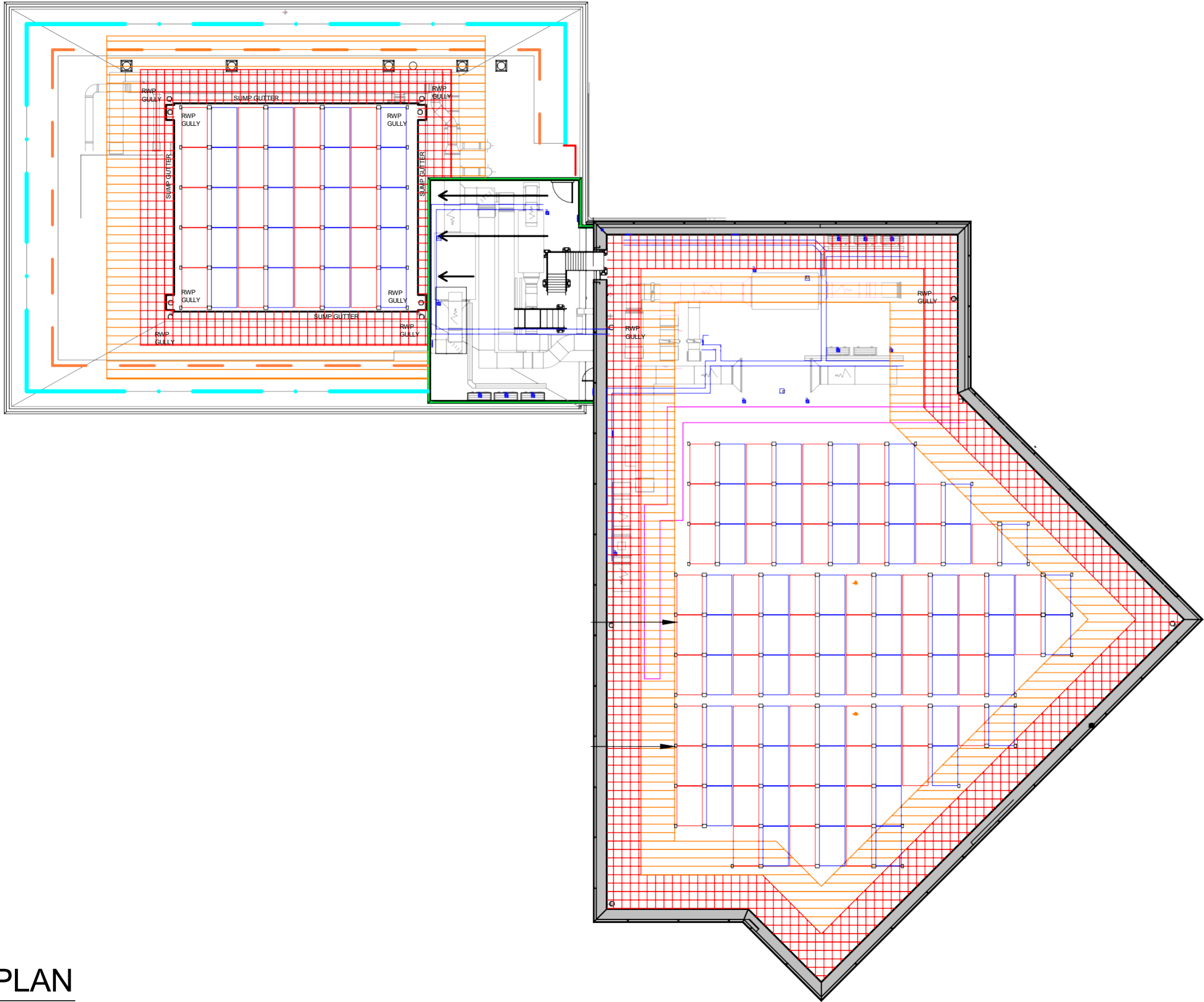
LAYOUT PLAN

SHEET SIZE

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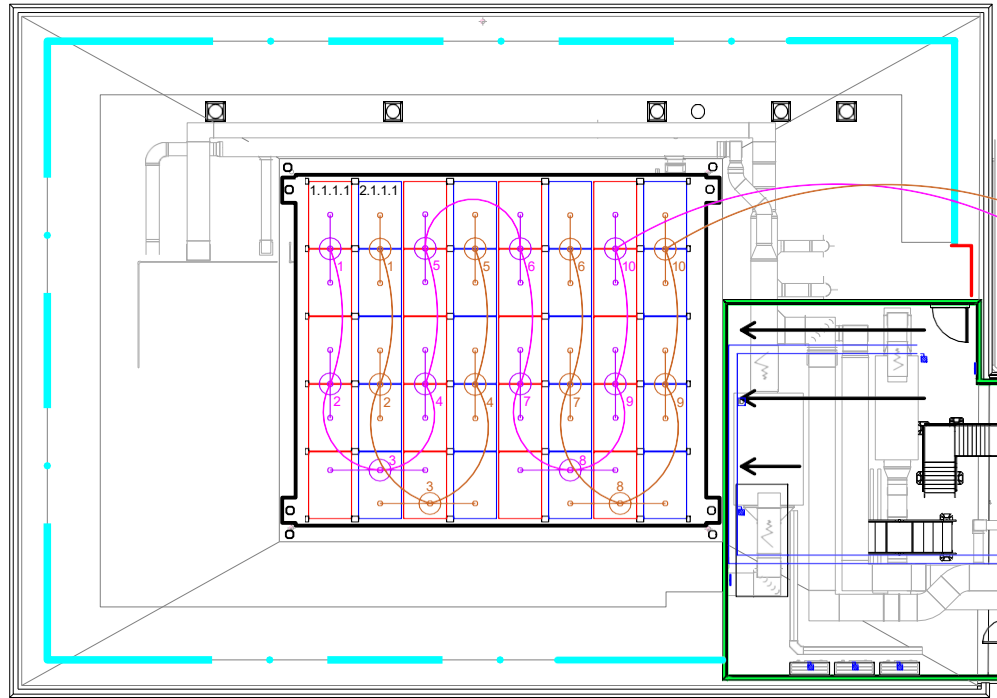
SHEET NUMBER

A.01

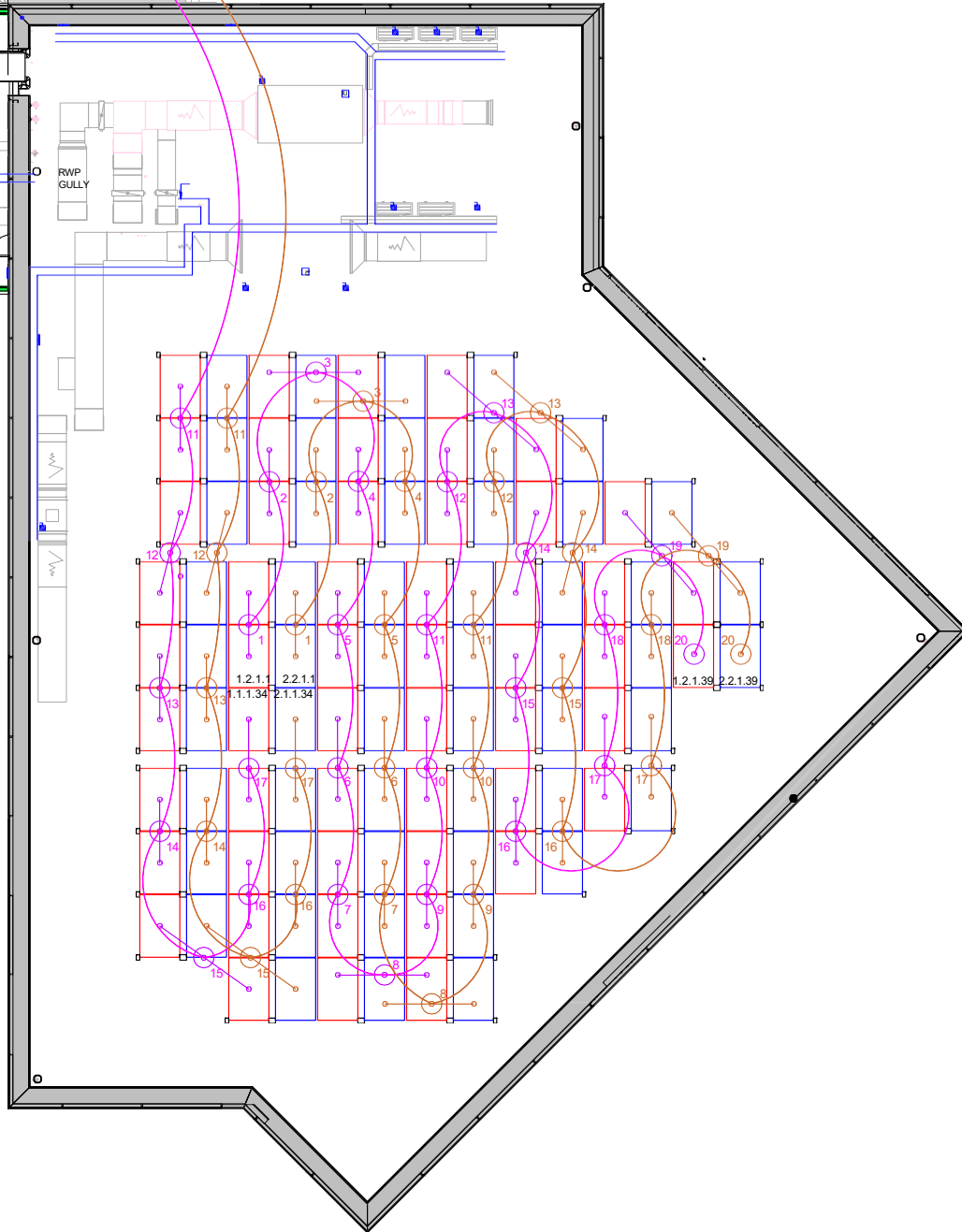
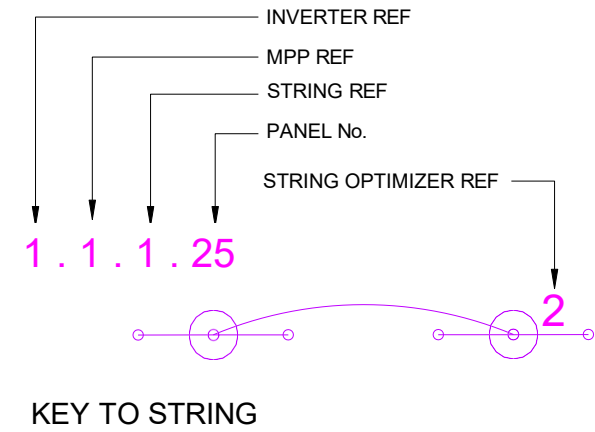


LAYOUT PLAN

SCALE: 1:200



LEFT UNIT	INVERTER: #1 (SE50K)
1*34 PANELS CONNECTED IN STRING TO MPPT #1 17 * S1000 (2:1) OPTIMIZERS	
1*39 PANELS CONNECTED IN STRING TO MPPT #2 19 * S1000 (2:1) 1 * S1000 (1:1) OPTIMIZERS	
RIGHT UNIT	
1*34 PANELS CONNECTED IN STRING TO MPPT #1 17 * S1000 (2:1) OPTIMIZERS	
1*39 PANELS CONNECTED IN STRING TO MPPT #2 19 * S1000 (2:1) 1 * S1000 (1:1) OPTIMIZERS	



LAYOUT PLAN
SCALE: 1:200



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STRING PLAN

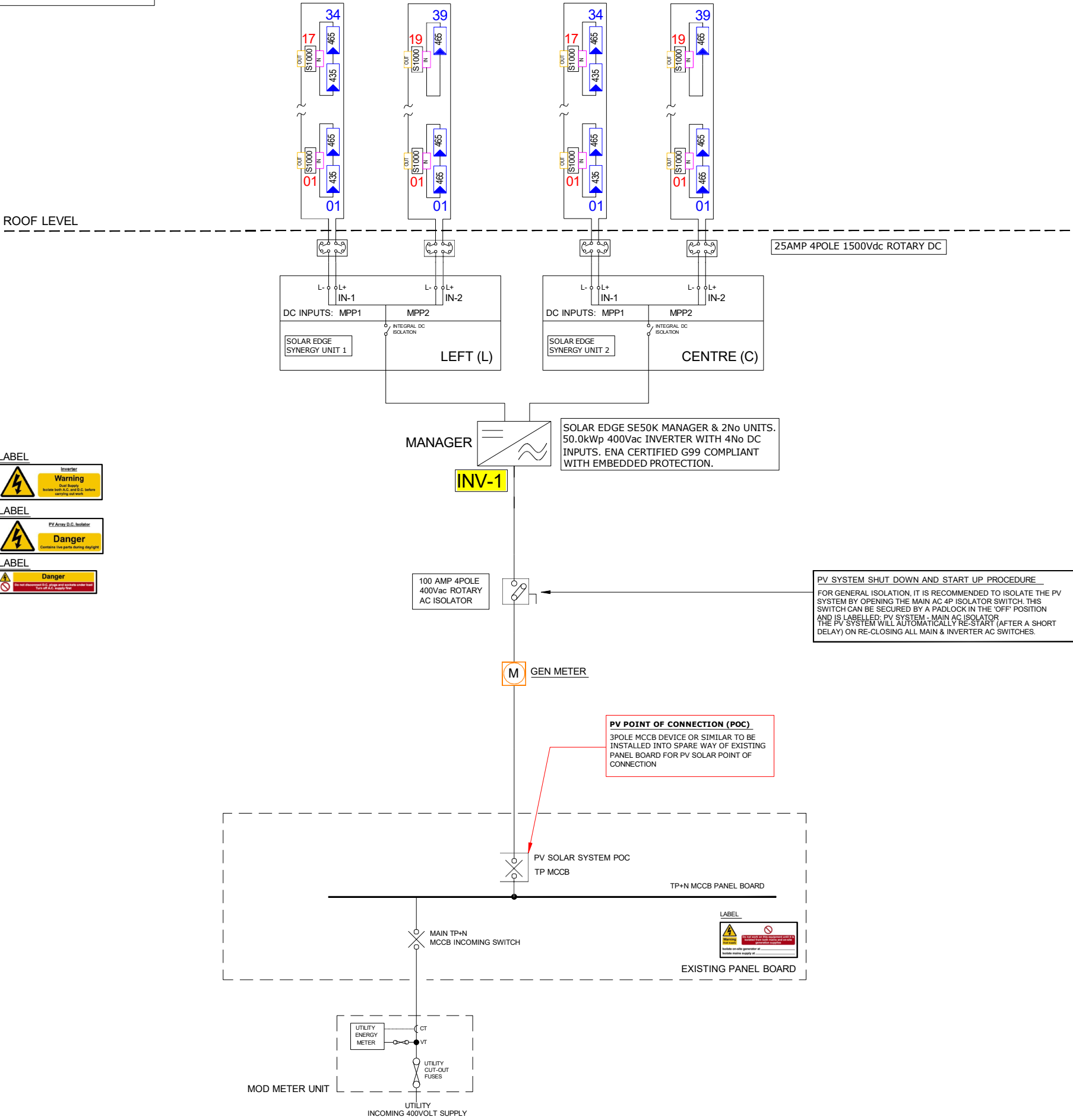
SHEET SIZE

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SHEET NUMBER

A.02

67.89kWp ON-ROOF
E/W MOUNTED
BALLASTED PV ARRAY
146 QTY 465W PANELS



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MCWFC BUILDING

SHEET NAME
SCHEMATIC
SHEET SIZE
ANSI B 279 X 432
SHEET NUMBER
E.00



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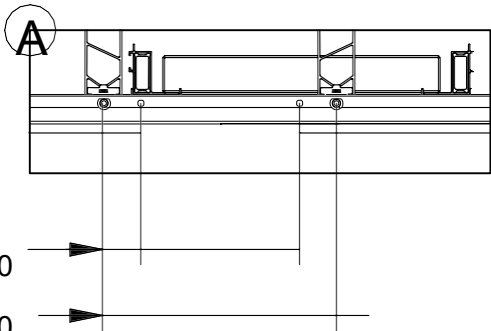
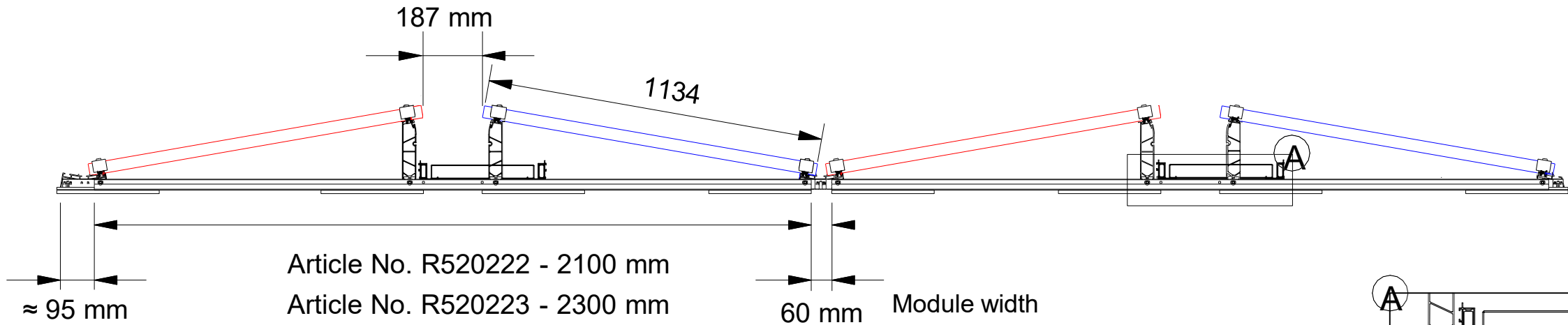
FRAMING LAYOUT

SHEET SIZE

ANSI B
279 X 432

SHEET NUMBER

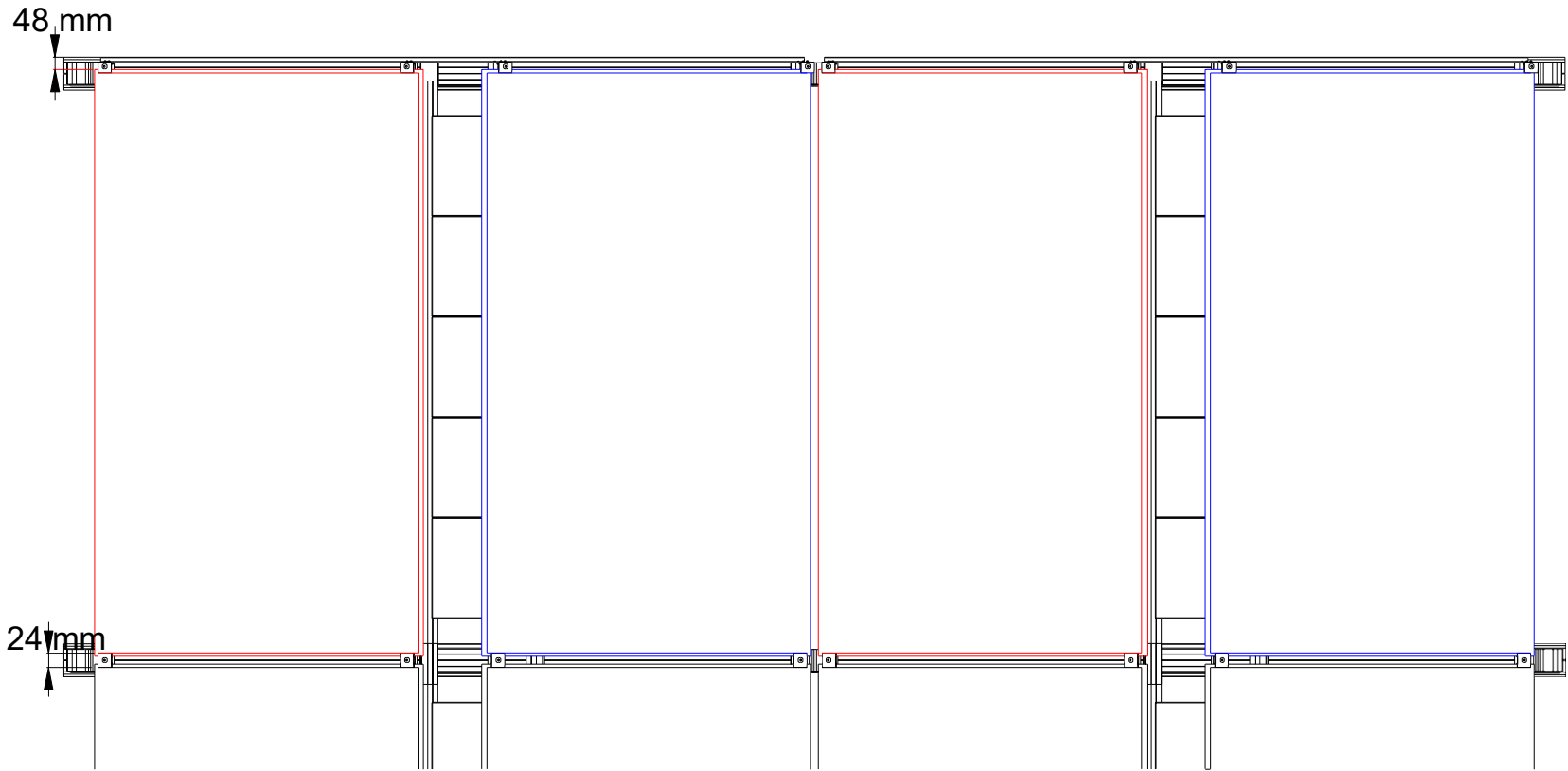
S.00



Details A

R520222/R520223 - 990-1.030/1.031-1.070
R520222/R520223 -1.031-1.070/1.071-1.150

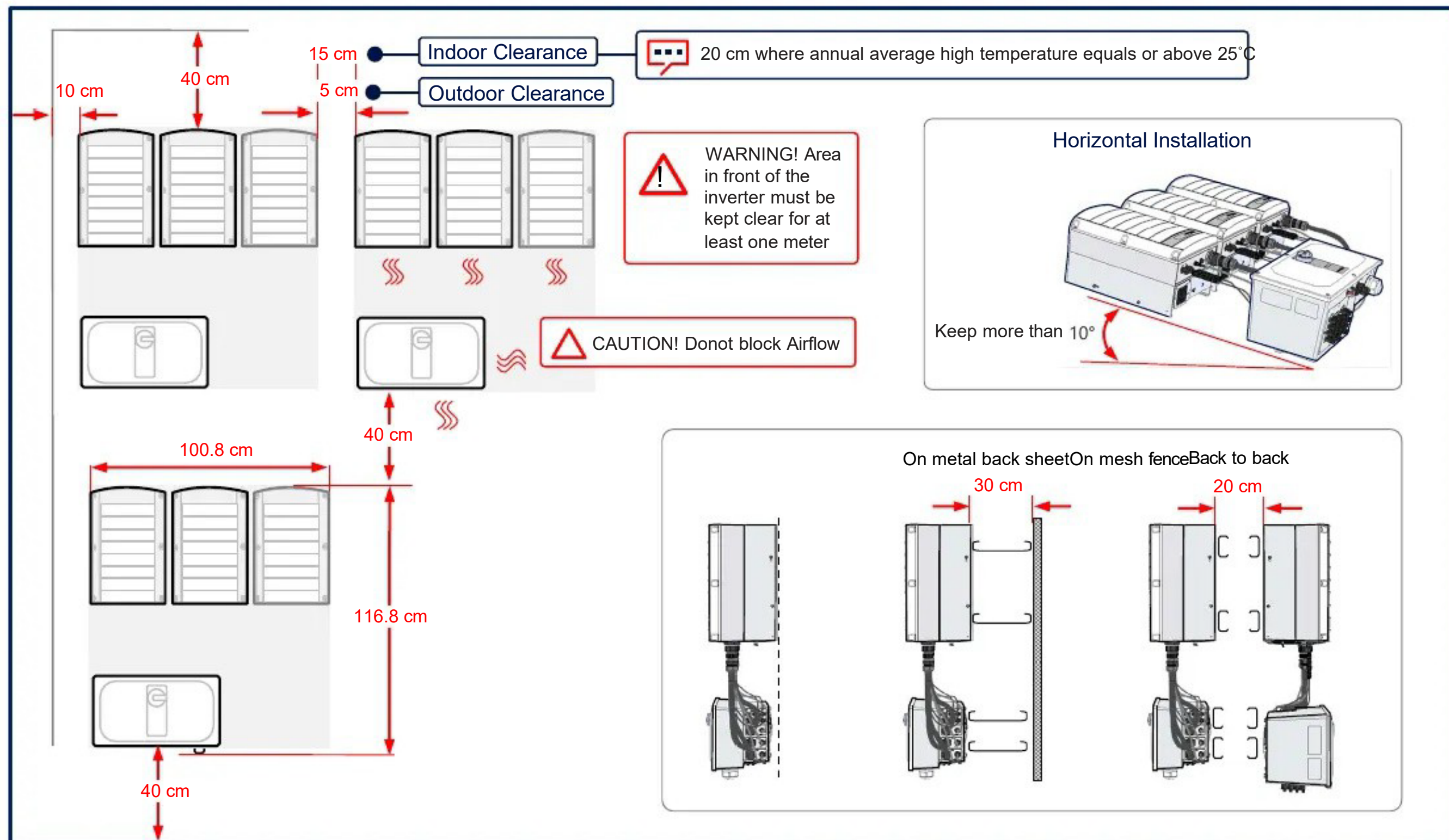
1 SIDE VIEW
SCALE: NTS



2 TOP VIEW
SCALE: NTS

Maintaining Clearance

3



MAN-01-00784-1.3 5

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INVERTER
LAYOUT

SHEET SIZE

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279 X 432

SHEET NUMBER

S.01

Three Phase Inverter with Synergy Technology

SE50K / SE55K / SE82.8K



INVERTERS

Specifically designed to work with power optimizers

- Easy two-person installation – each unit mounted separately, equipped with cables for simple connection between units
- Balance of System and labor reduction compared to using multiple smaller string inverters
- Independent operation of each unit enables higher uptime and easy serviceability
- No wasted ground area: wall/rail mounted or horizontally mounted under the modules (10° inclination)
- Built-in module-level monitoring with Ethernet or cellular GSM
- Fixed voltage inverter for superior efficiency (98.3%) and longer strings
- Integrated Connection Unit with optional integrated DC Safety Switch – eliminates the need for external DC isolators
- Built-in RS485 Surge Protection, to better withstand lightning events
- Advanced safety features - integrated arc fault protection and optional rapid shutdown

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Three Phase Inverter with Synergy Technology

SE50K / SE55K / SE82.8K

	SE50K	SE55K	SE82.8K	
OUTPUT				
Rated AC Power Output	50000 ⁽²⁾	55200	82800	VA
Maximum AC Power Output	50000 ⁽²⁾	55200	82800	VA
AC Output Voltage — Line to Line / Line to Neutral (Nominal)	380/220 ; 400/230			Vac
AC Output Voltage — Line to Line Range / Line to Neutral Range	304 - 437 / 176 - 253 ; 320 - 460 /184 - 264.5			Vac
AC Frequency	50/60 ± 5			Hz
Maximum Continuous Output Current (per Phase) @Vac,nom	76	80	120	A
Grids Supported — Three Phase	3 / N / PE (WYE with Neutral)			V
Maximum Residual Current Injection	250 per unit ⁽³⁾			mA
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes			
INPUT				
Maximum DC Power (Module STC), Inverter / Unit	67500 / 33750	74520 / 37260	111750 / 37250	W
Transformer-less, Ungrounded	Yes			
Maximum Input Voltage	1000			Vdc
Nominal DC Input Voltage	750			Vdc
Maximum Input Current	2 x 37	2 x 40	3 x 40	Adc
Reverse-Polarity Protection	Yes			
Ground-Fault Isolation Detection	350kΩ Sensitivity per Unit ⁽⁴⁾			
Maximum Inverter Efficiency	98.3			%
European Weighted Efficiency	98			%
Nighttime Power Consumption	< 12			W
ADDITIONAL FEATURES				
Supported Communication Interface ⁽⁵⁾ (	RS485, Ethernet, GSM plug-in (optional)			
RS485 Surge Protection	Built-in			
Rapid Shutdown	Optional ⁽⁶⁾ (Automatic upon AC Grid Disconnect)			
CONNECTION UNIT				
DC Disconnect (optional)	1000V / 2 x 40A		1000V / 3 x 40A	
STANDARD COMPLIANCE				
Safety	IEC-62109, AS3100			
Grid Connection Standards ⁽⁷⁾	VDE-AR-N-4105, G99, AS-4777,EN 50438 , CEI-021,VDE 0126-1-1, CEI-016, BDEW			
Emissions	IEC61000-6-2, IEC61000-6-3 , IEC61000-3-11, IEC61000-3-12			
RoHS	Yes			
INSTALLATION SPECIFICATIONS				
Number of Units	2		3	
AC Output Cable	Cable gland — diameter 22-32; PE gland diameter 10-16		Cable gland — diameter 30-38; PE gland diameter 10-16	mm
DC Input ⁽⁸⁾	6 strings, 4-10mm2 DC wire, gland outer diameter 5-10mm / 3 MC4 pairs per unit		9 strings, 4-10mm2 DC wire, gland diameter 5-10mm / 3 MC4 pairs per unit	outer r unit
AC Output Wire	Aluminum or Copper; L, N: Up to 70, PE: Up to 35		Aluminum or Copper; L, N: Up to 95, PE: Up to 50	mm2
Dimensions (H x W x D)	Primary Unit: 940 x 315 x 260; Secondary Unit: 540 x 315 x 260			mm
Weight	Primary Unit: 48; Secondary Unit: 45			kg
Operating Temperature Range	-40 to +60 ⁽⁹⁾			°C
Cooling	Fan (user replaceable)			
Noise	< 60			dBA
Protection Rating	IP65 — Outdoor and Indoor			
Mounting	Bracket provided			

(1) Available in some countries. Refer to: https://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf
(2) 49990 in the UK
(3) If an external RCD is required, its trip value must be ≥ 300mA per unit (≥ 600mA for SE50K/SE55K; ≥ 900mA for SE82.8K)
(4) Where permitted by local regulations
(5) Refer to Datasheets -> Communications category on Downloads page for specifications of optional communication options: <http://www.solaredge.com/groups/support/downloads>
(6) Inverter with rapid shutdown part number: SExxK-RWRxxxxx; Available for SE55K and SE82.8K
(7) For all standards refer to Certifications category on Downloads page: <http://www.solaredge.com/groups/support/downloads>
(8) The DC input type, MC4 or glands, and DC switch depends on the part number ordered. Inverter with glands and DC switch P/N: SExxK-xx0P0BNG4, inverter with glands and without DC switch P/N: SExxKxx0P0BNA4, inverter with MC4 and with DC switch P/N: SExxK-xx0P0BNU4, inverter with MC4 and without DC switch P/N: SExxK-xx0P0BNY4
(9) For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>



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MCWFC BUILDING

SHEET NAME SPECIFICATION SHEET

SHEET SIZE ANSI B 279 X 432

SHEET NUMBER D.02

Power Optimizer

S1000 / S1200



SolarEdge's most advanced, cost-effective Power Optimizer for commercial and large field installations

- Greater Energy Yields**
- High efficiency (99.5%) with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
- Supports high power and bifacial PV modules, and high string current for more power per string
- Maximum Protection with Built-In Safety**
- Designed to automatically reduce high DC voltage to touch-safe levels, upon grid/inverter shutdown, with SafeDC™
- Includes SolarEdge Sense Connect, allowing continuous monitoring to detect overheating due to installation issues or connector-level wear and tear

- Lower BoS Costs**
- Flexible system design enables maximum space utilization and up to 2x longer string lengths, 50% less cables, fuses and combiner boxes
- Supports connection of two PV modules in series with easy cable management and fast installation times
- Simpler O&M**
- Module-level system monitoring enabling pinpointed fault detection and remote, time-saving troubleshooting



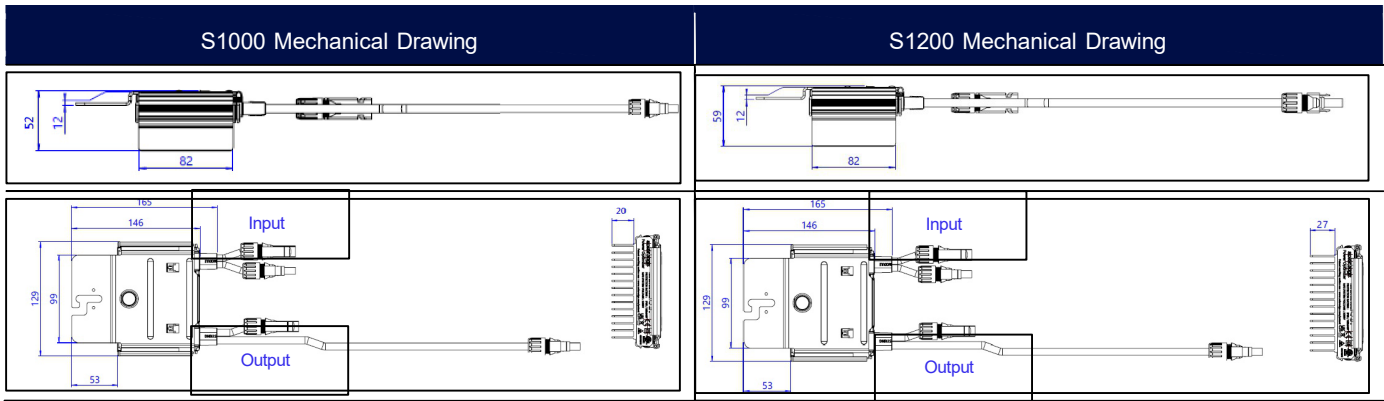
solaredge.com

POWER OPTIMIZERS

Power Optimizer S1000 / S1200

Power Optimizer Model (Typical Module Compatibility)	S1000 (for up to 2 x high power or bifacial modules)	S1200	Units
INPUT ⁽¹⁾			
Rated Input DC Power ⁽²⁾	1100	1300	W
Absolute Maximum Input Voltage (Voc)	125		Vdc
MPPT Operating Range	12.5 – 105		Vdc
Maximum Continuous Input Current	15		Adc
Maximum Short Circuit Current (Isc) of Connected PV Module	20		Adc
Maximum Efficiency	99.5		%
Weighted Efficiency	98.8		%
Overvoltage Category	II		
OUTPUT DURING OPERATION			
Maximum Output Current	18	20	Adc
Maximum Output Voltage	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1±0.1		Vdc
STANDARD COMPLIANCE			
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 – Class B, EN 55011		
Safety	IEC 62109-1 (class II safety), UL 3741		
Material	UL 94 V-0, UV Resistant		
RoHS	Yes		
Fire Safety	VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Compatible SolarEdge Inverters	All commercial three phase inverters		
Maximum Allowed System Voltage	1000		Vdc
Dimensions (W x L x H)	129 x 165 x 52 / 5.08 x 6.49 x 2.047	129 x 165 x 59 / 5.08 x 6.49 x 2.32	mm / in
Weight (including cables)	1064 / 2.3	1106 / 2.4	gr / lb
Input Connector	MC4 ⁽³⁾		
Input Wire Length	Short Input: 0.1 / 0.32 Long Input: 1.3 / 4.26 ⁽⁴⁾	Short Input: 0.1 / 0.32 Long Input: 1.6 / 5.24 ⁽⁴⁾	m / ft
Output Connector	MC4		
Output Wire Length	(+) 4.7 (-) 0.10 / (+) 15.41 (-) 0.32	(+) 5.3 (-) 0.10 / (+) 17.38 (-) 0.32	m / ft
Operating Temperature Range ⁽⁵⁾	-40 to +85 / -40 to +185		°C / °F
Protection Rating	IP68 / NEMA6P		
Relative Humidity	0 – 100		%
Maximum Operating Altitude	2000		m

- (1) For detailed Power Optimizer/PV module compatibility guidelines, refer to the [Application Note – Power Optimizer Compatibility with PV Modules](#).
(2) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(3) For other connector types please contact SolarEdge.
(4) For S-Series models with long input cables (1.3m / 4.26ft or 1.6m / 5.24ft), the Sense Connect feature is only enabled on the output cable connectors.
(5) For ambient temperatures above +65°C / +149°F power derating is applied. Refer to the [Temperature Derating Technical Note](#) for details.



* When installing SolarEdge power optimizers, maintaining clearance is required. Refer to the [Power Optimizer Clearance Application Note](#) for more details.



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