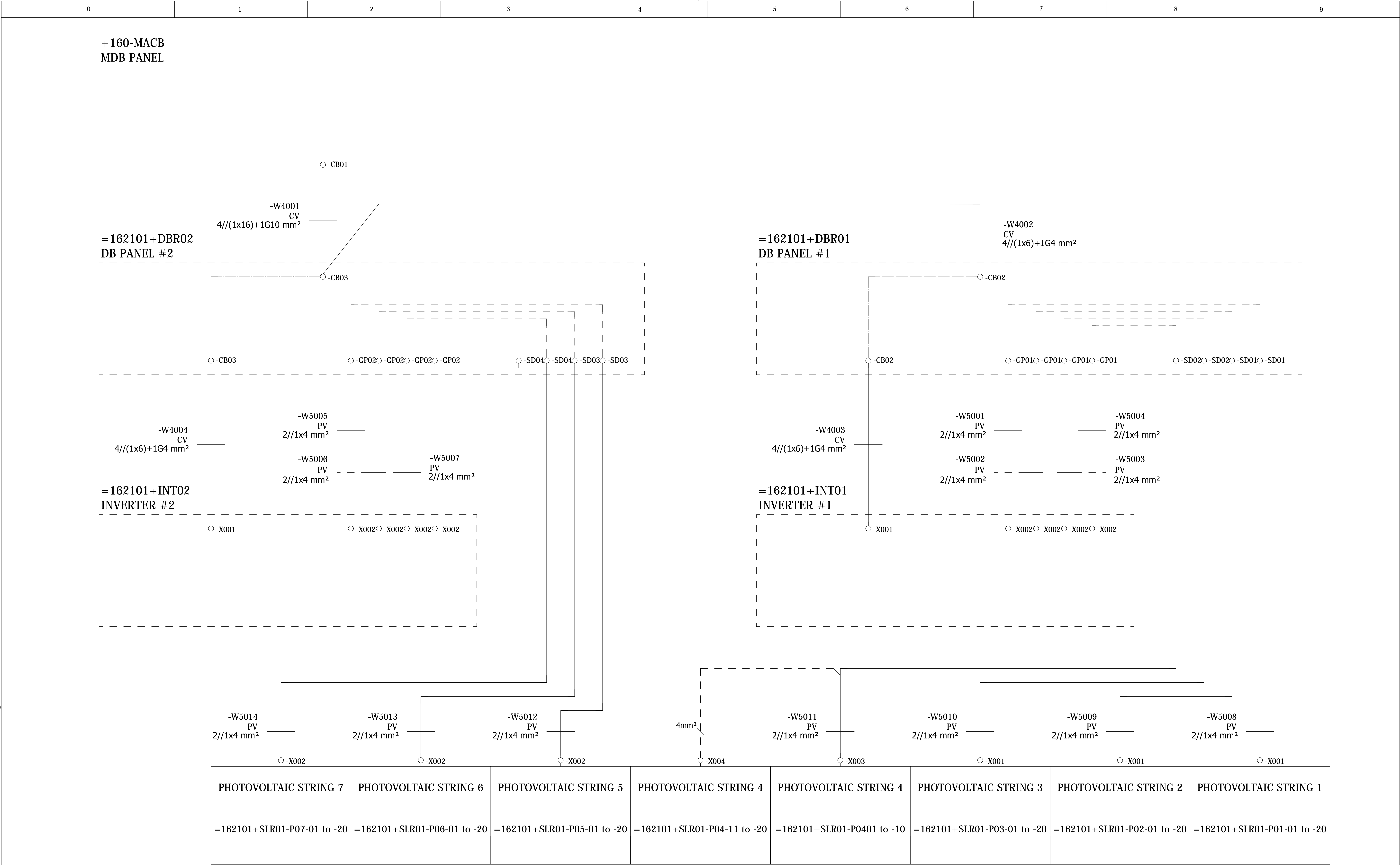





ภาคผนวก ซ

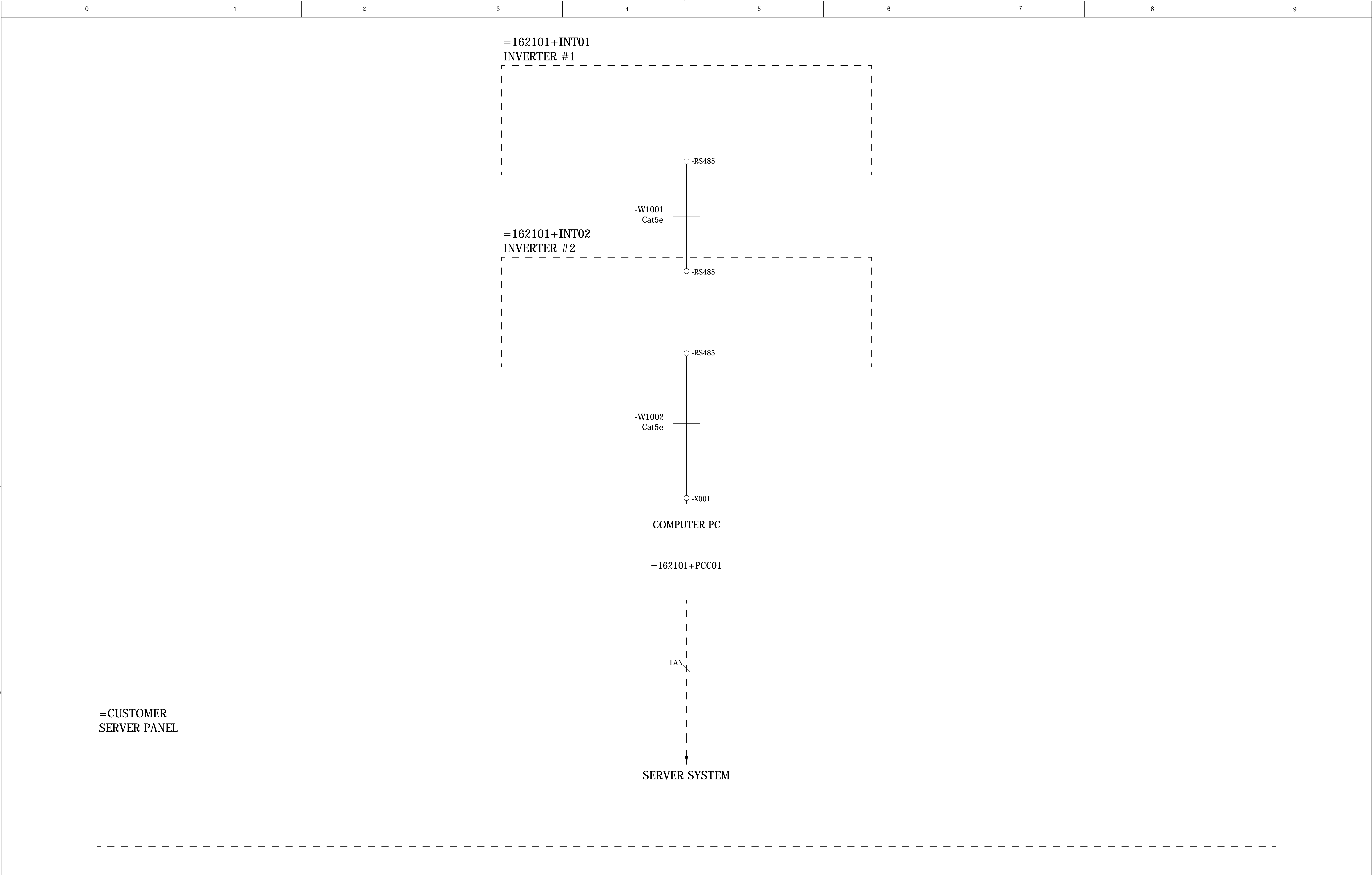
Single Line Diagram



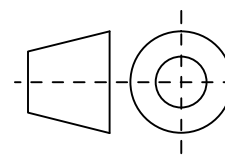
ระยะที่ 1



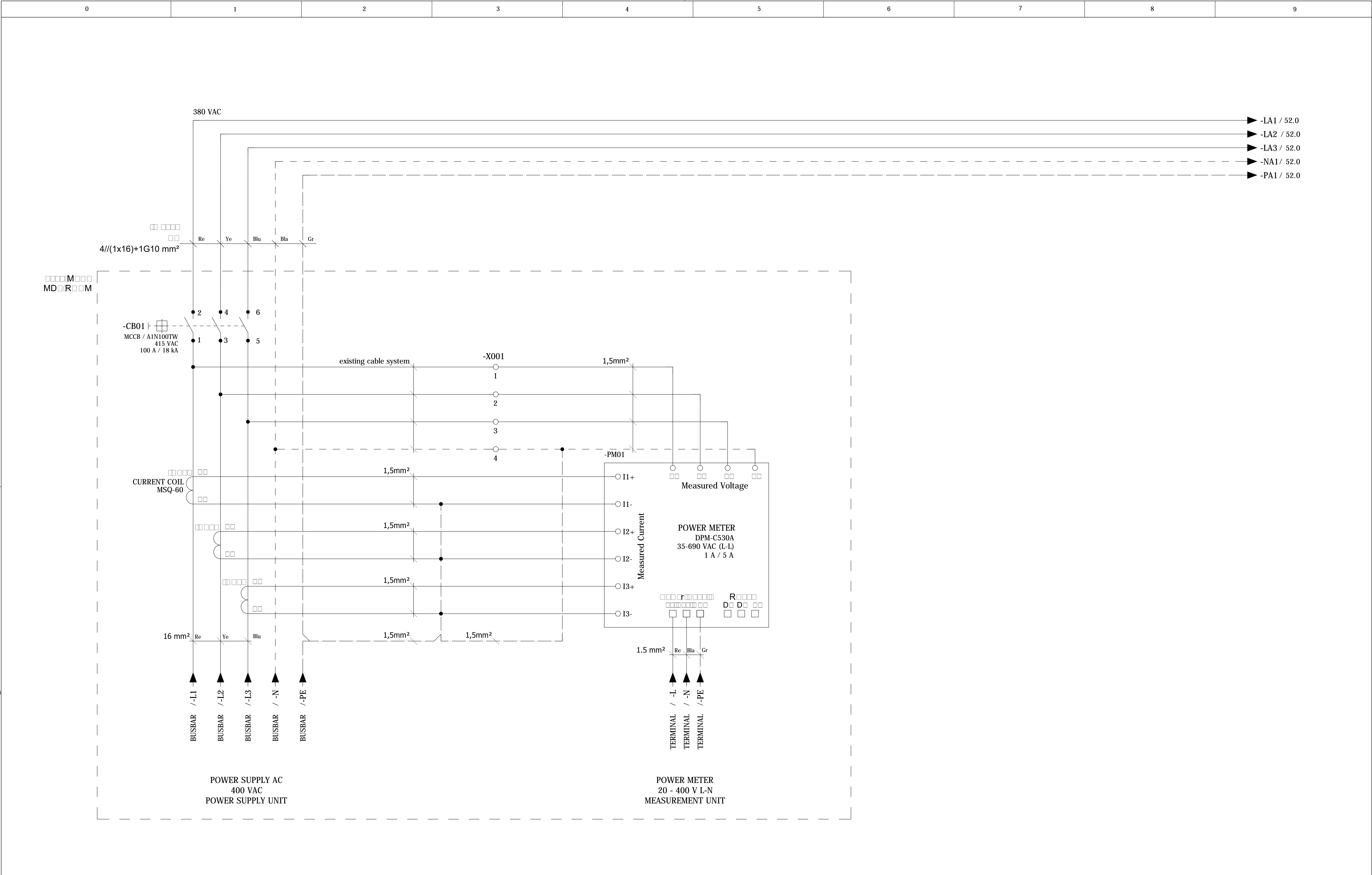
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											NUMBER DRAWING		REVISION		<div>UNLESS OTHERWISE SPECIFIED *DIMENSION ARE IN MILLIMETERS *THIRD ANGLE PROJECTION</div> 		SHEET		
											SCSC-01.2016		00				021		
31 Jul 2016	ISSUED		RawatN	SopakP	KasemT	PROJECT TITLE		INSTALL SOLAR ROOF - ADMIN BUILDING		FILE NUMBER		SCALE		SIZE		UNIT		NEXT	
DATE	DESCRIPTION		Drw. by	Chk. by	Apv. by					SCSC-01.2016-021_Rev00_E.dwg		1 : 1		A4		mm		022	



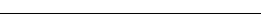
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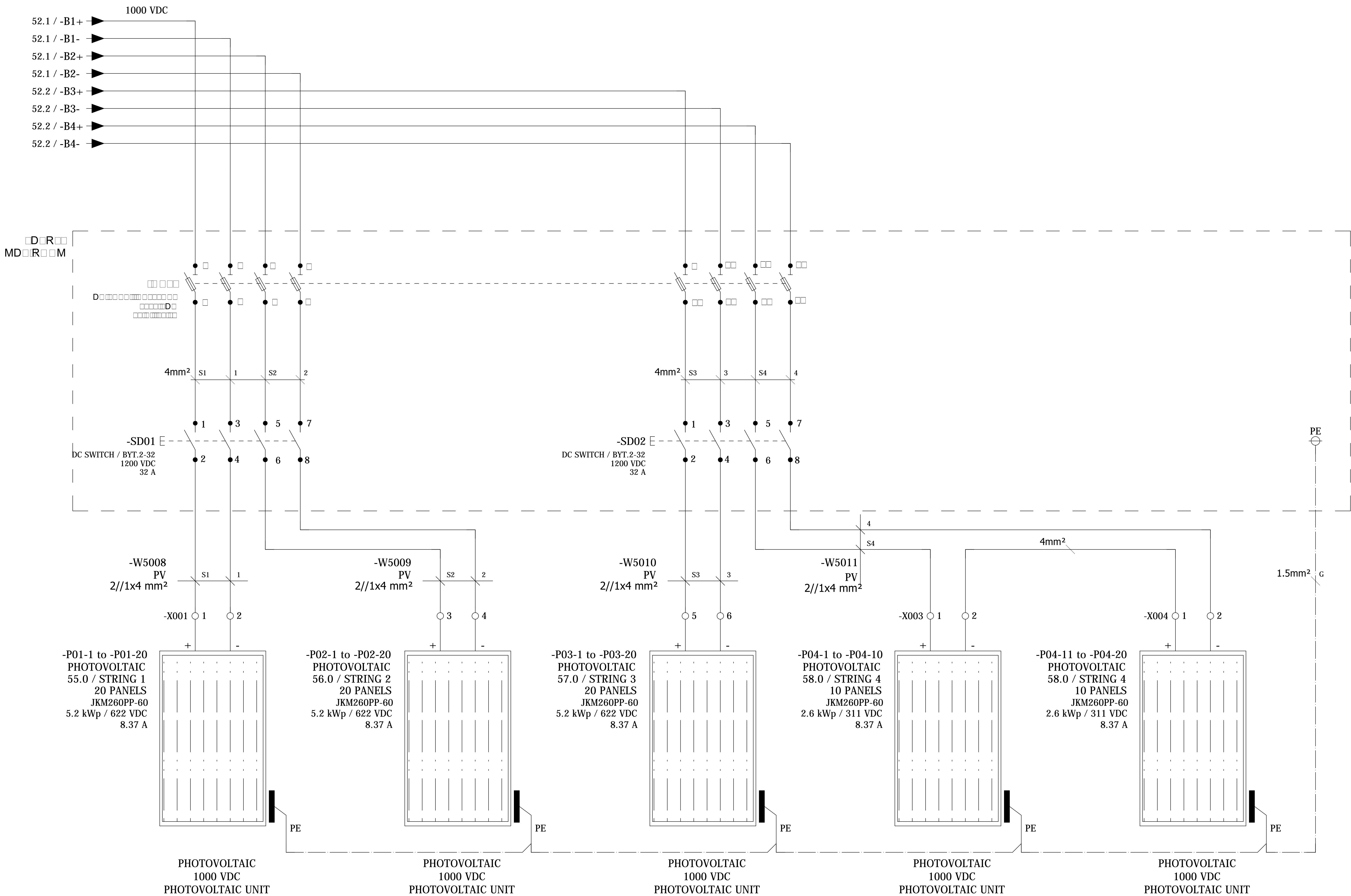
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											NUMBER DRAWING		REVISION		UNLESS OTHERWISE SPECIFIED *DIMENSION ARE IN MILLIMETERS *THIRD ANGLE PROJECTION			SHEET
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31 Jul 2016	ISSUED	RawatN	SopakP	KasemT							PROJECT TITLE		FILE NUMBER		SCALE		SIZE	UNIT
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-022_Rev00_E.dwg		1 : 1		A4	mm	051					

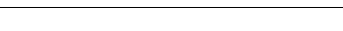
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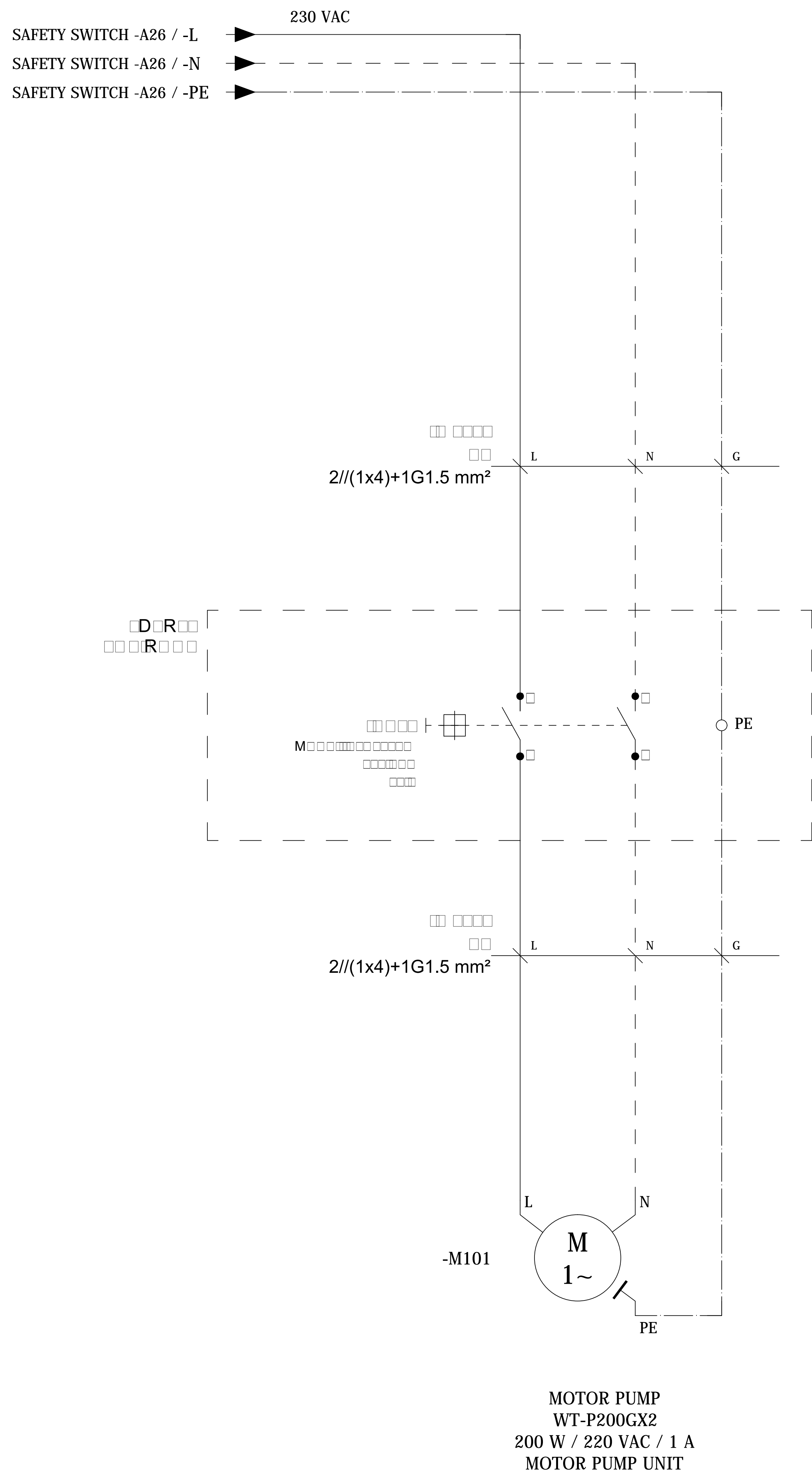
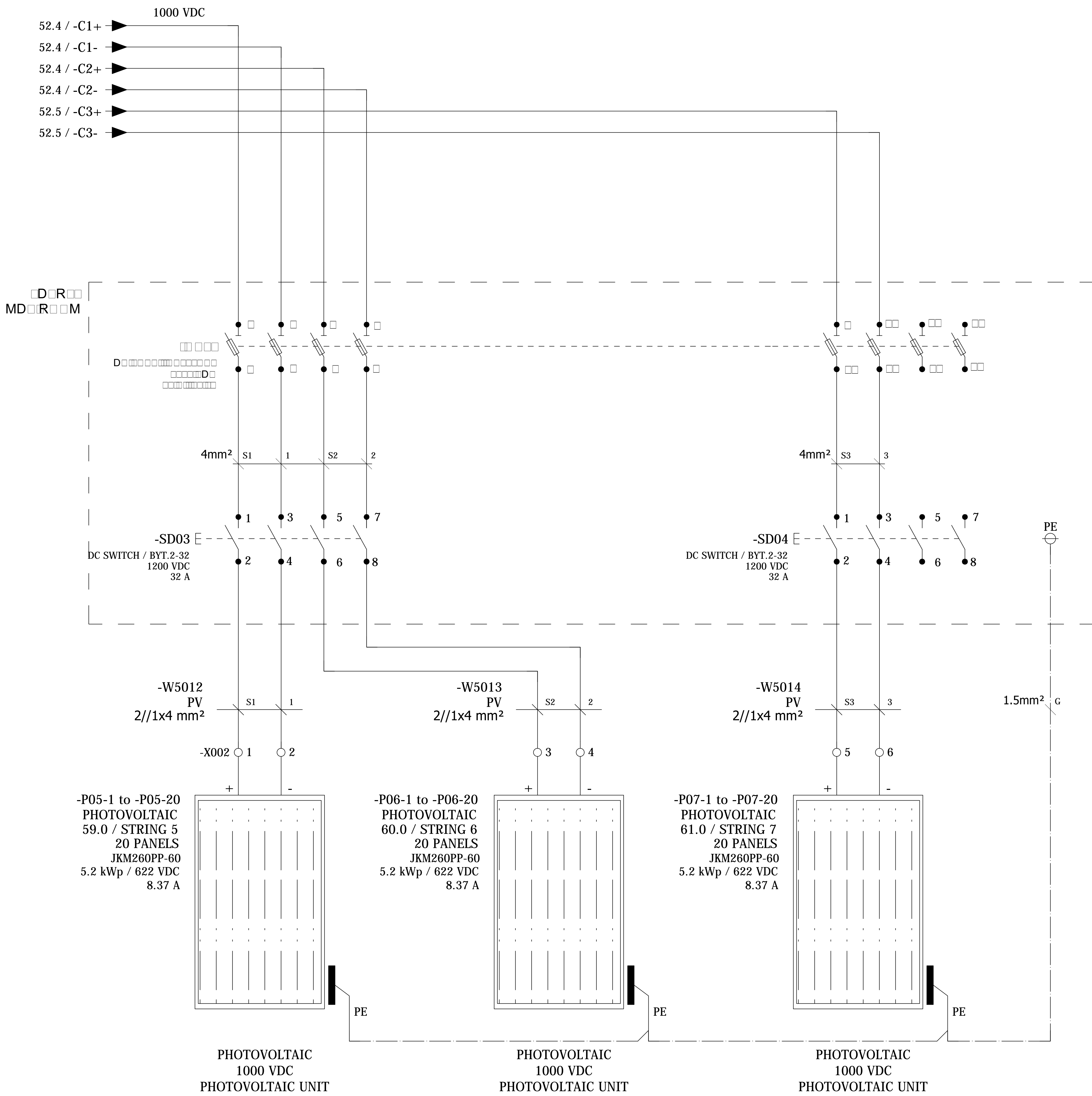
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											NUMBER DRAWING		REVISION		UNLESS OTHERWISE SPECIFIED *DIMENSION ARE IN MILLIMETERS *THIRD ANGLE PROJECTION		SHEET	
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DATE	DESCRIPTION		Drw. by	Chk. by	Apv. by		INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-051_Rev00_E.dwg		1 : 1		A4		mm		052	

SCSC-01.2016-053_Rev00_E.dwg



<div>PHOTOVOLTAIC SYSTEM # 1</div> <div>20.8 kWp / 622 VDC / 33.48 A</div> <div>JKM260PP-60 / Nominal Operating Cell Temp 45±2 C</div> <div>Application Class A and Fire Class C</div>					TITLE	<div>PLANT</div> <div>SCSC</div>	<div>COMPANY</div> <div>TATA</div>	JOB NUMBER		= 162101					
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31 Jul 2016	ISSUED	RawatN	SopakP	KasemT	PROJECT TITLE		FILE NUMBER		SCALE	SIZE	UNIT	NEXT			
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-053_Rev00_E.dwg		1 : 1	A4	mm	054			

SCSC-01.2016-054_Rev00_E.dwg



31 Jul 2016	ISSUED	RawatN	SopakP	KasemT
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by

PHOTOVOLTAIC SYSTEM #2

15.6 kWp / 622 VDC / 25.11 A

JKM260PP-60 / Nominal Operating Cell Temp 45±2 C

Application Class A and Fire Class C

PROJECT TITLE

INSTALL SOLAR ROOF - ADMIN BUILDING

PLANT

SCSC

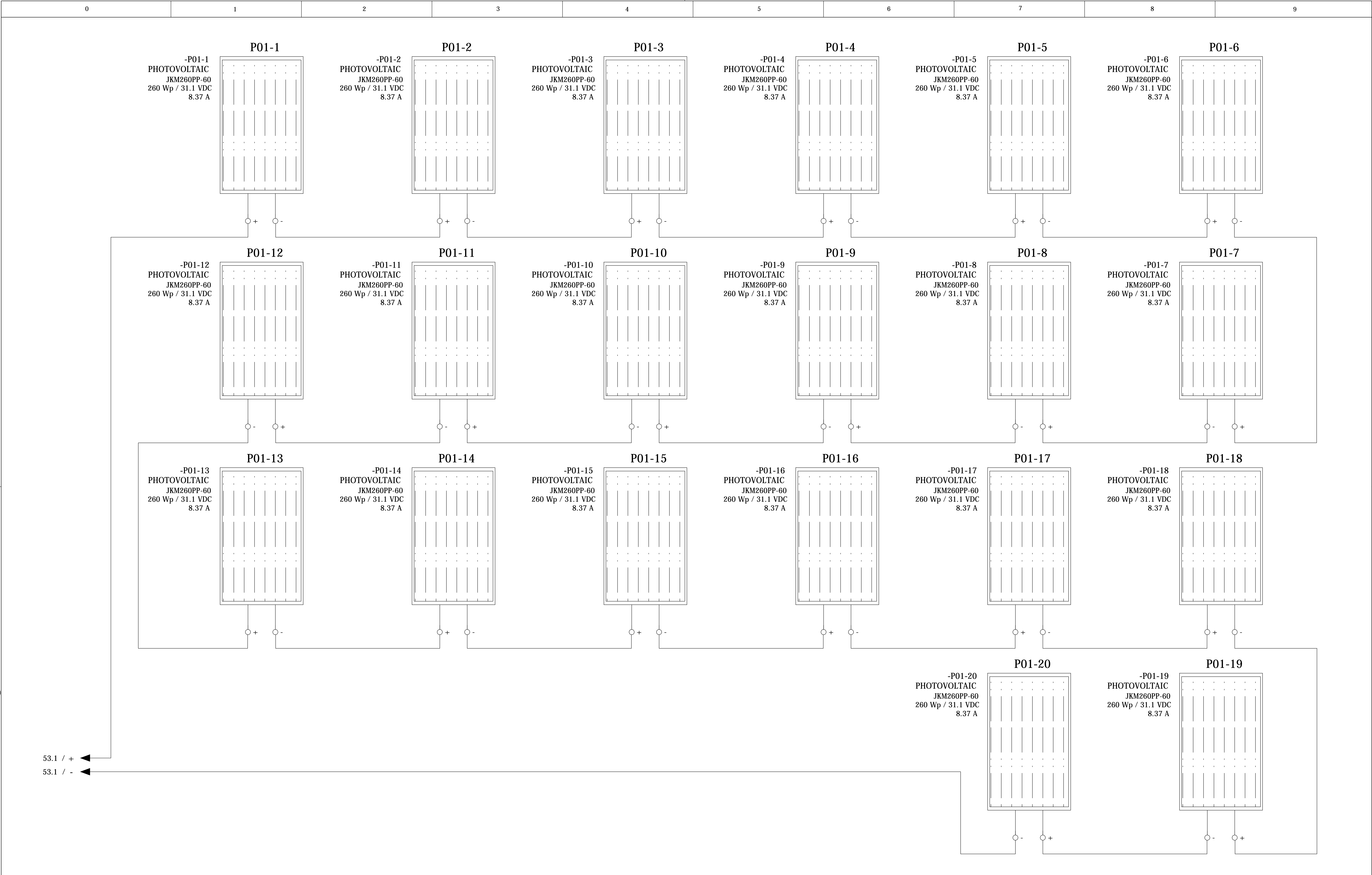
COMPANY


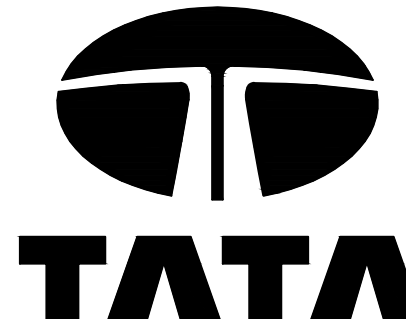
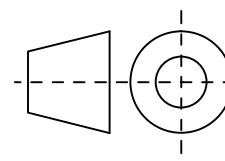
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JOB NUMBER	162101
NUMBER DRAWING	SCSC-01.2016
FILE NUMBER	SCSC-01.2016-054_Rev00_E.dwg

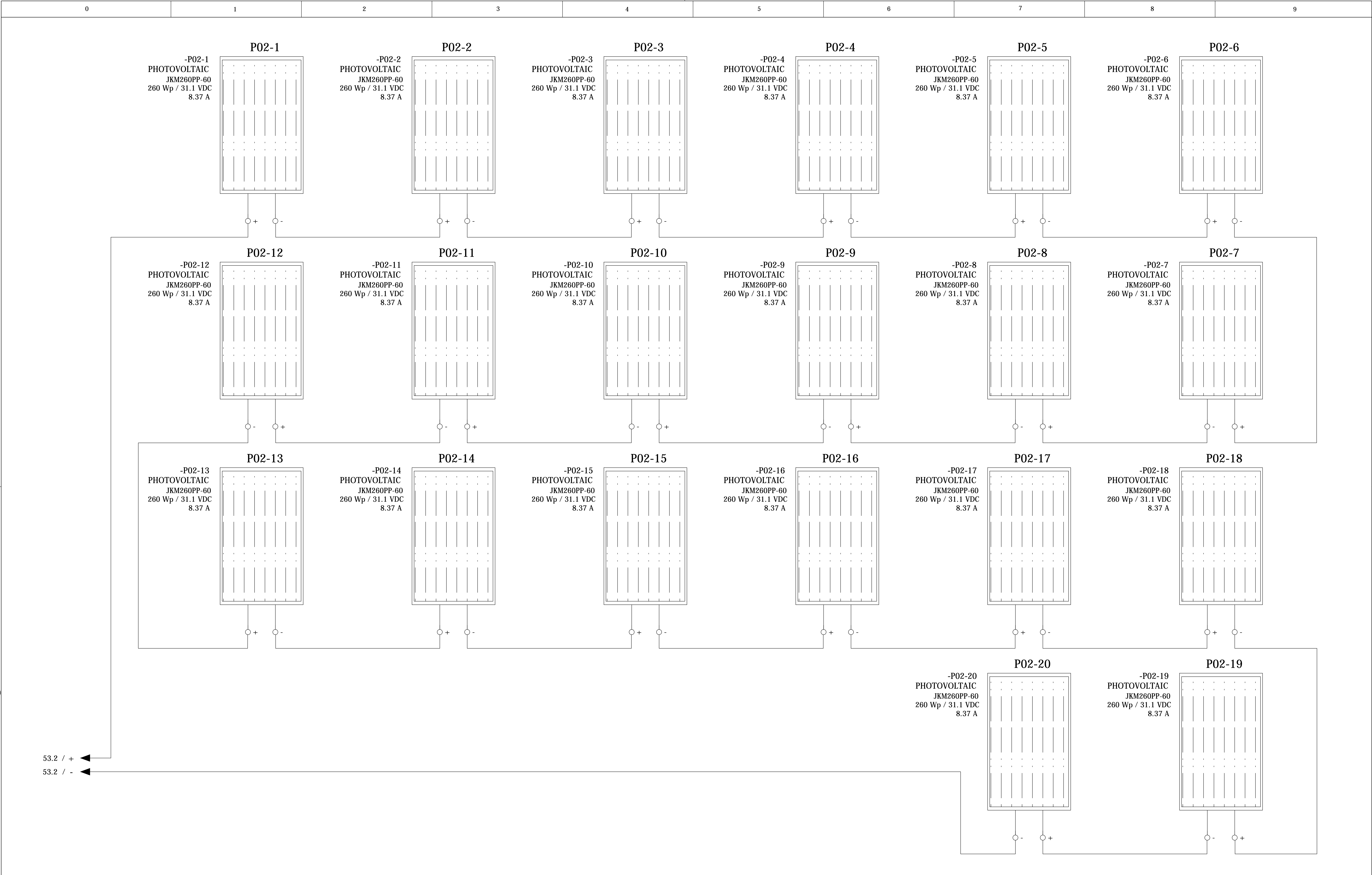
= 162101			
+ SLR01			
REVISION	00	UNLESS OTHERWISE SPECIFIED *DIMENSION ARE IN MILLIMETERS *THIRD ANGLE PROJECTION	SHEET 054
SCALE	1 : 1	SIZE	A4
UNIT	mm	NEXT	055

SCSC-01.2016-055_Rev00_E.dwg



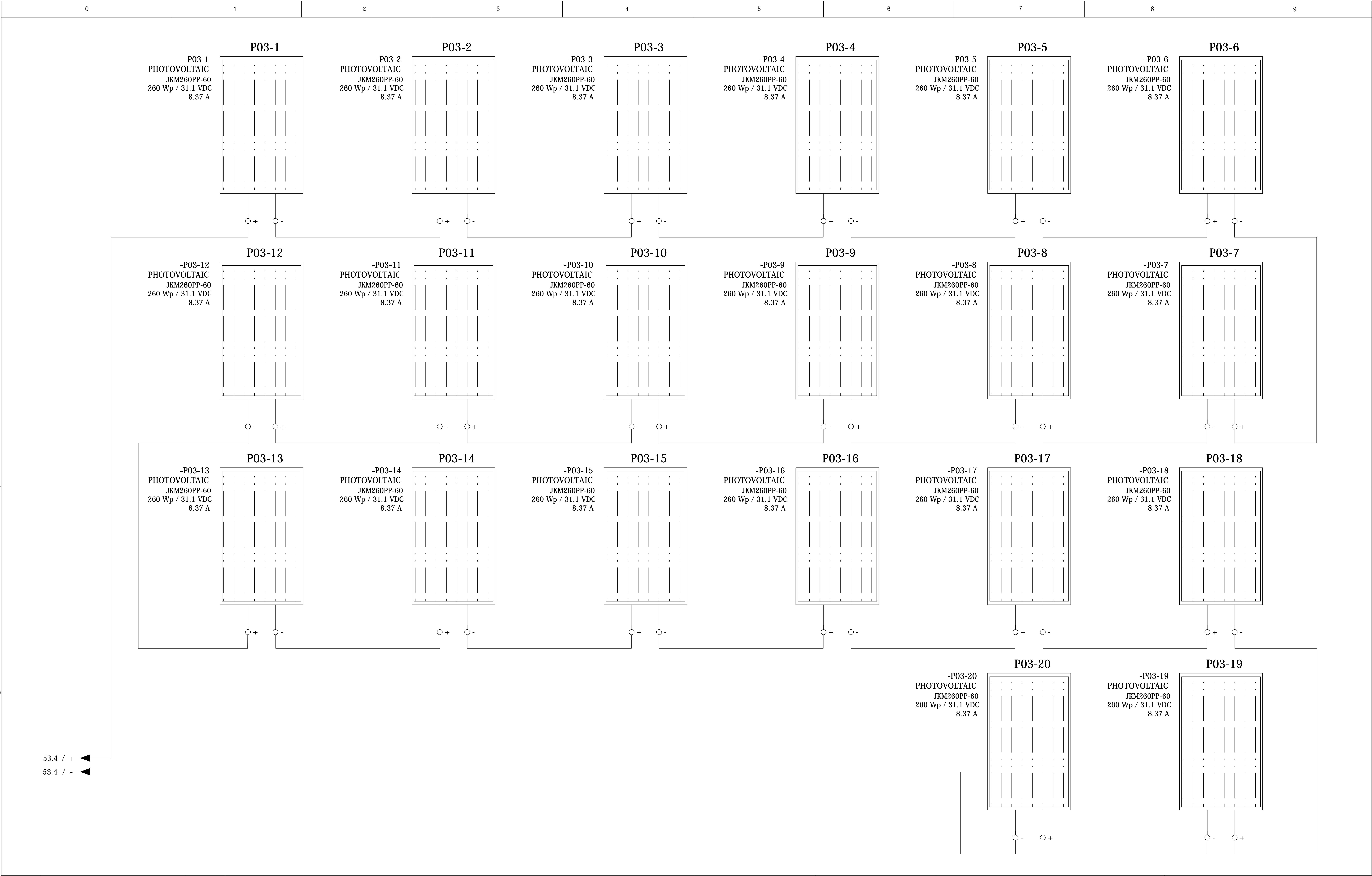
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											SCSC-01.2016		00			
31 Jul 2016	ISSUED	RawatN	SopakP	KasemT							PROJECT TITLE		FILE NUMBER		SCALE	
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-055_Rev00_E.dwg		1 : 1		A4		mm		056	
					5.2 kWp / 622 VDC / 8.37 A											
					JKM260PP-60 / Nominal Operating Cell Temp 45±2 C											
					Application Class A and Fire Class C											



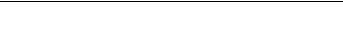
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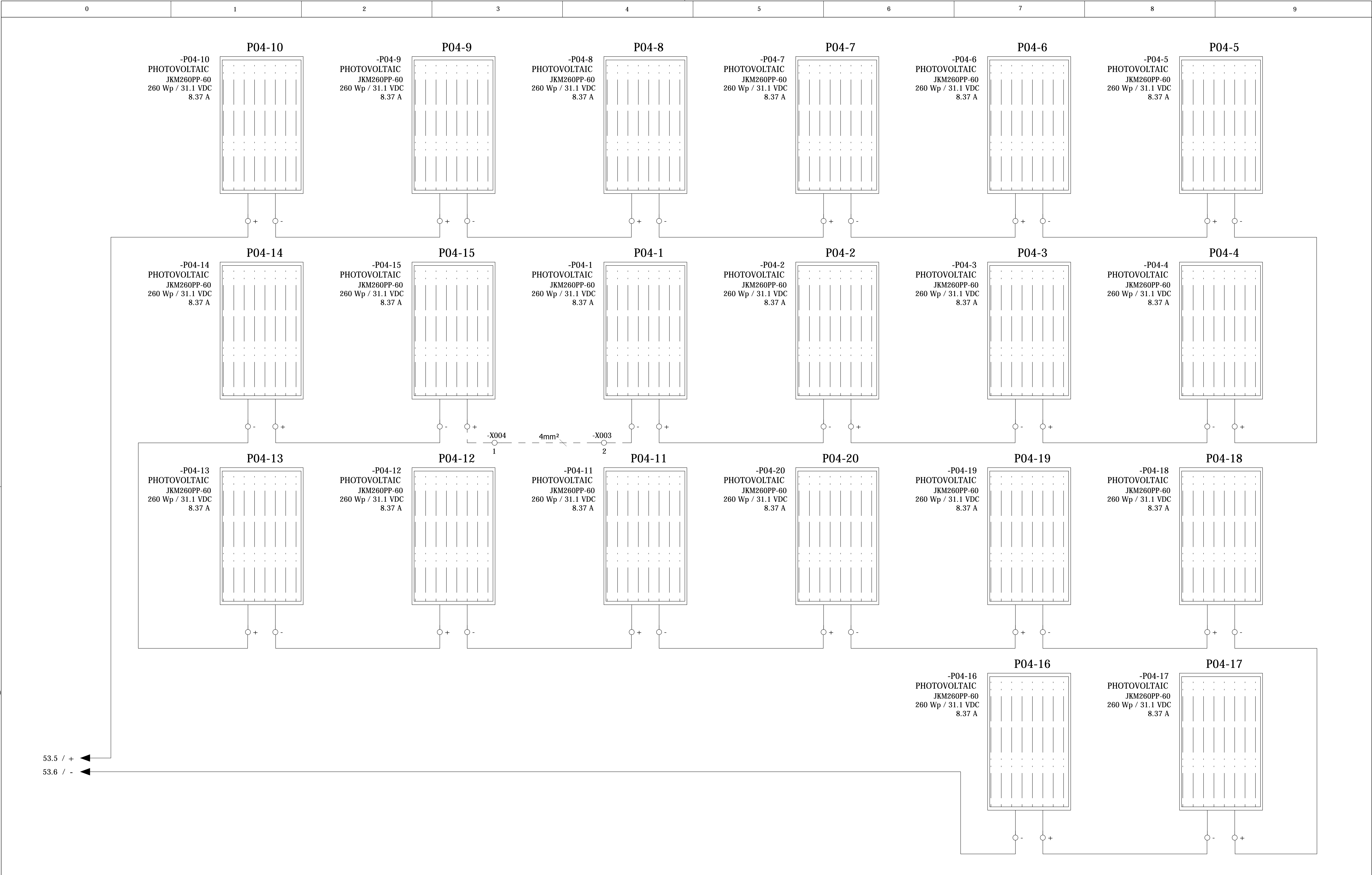
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5.2 kWp / 622 VDC / 8.37 A					JKM260PP-60 / Nominal Operating Cell Temp 45±2 C		TATA		162101		NUMBER DRAWING		+ SLR01	
Application Class A and Fire Class C					PROJECT TITLE		TATA		SCSC-01.2016		REVISION		00	
31 Jul 2016 ISSUED					INSTALL SOLAR ROOF - ADMIN BUILDING		FILE NUMBER		SCSC-01.2016-056_Rev00_E.dwg		SCALE		1 : 1	
DATE DESCRIPTION					RawatN SopakP KasemT		Drw. by Chk. by Apv. by		NEXT		SIZE		A4	
													mm	
													UNIT	
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													SHEET	
													056	
													NEXT	
													057	




SCSC-01.2016-057_Rev00_E.dwg

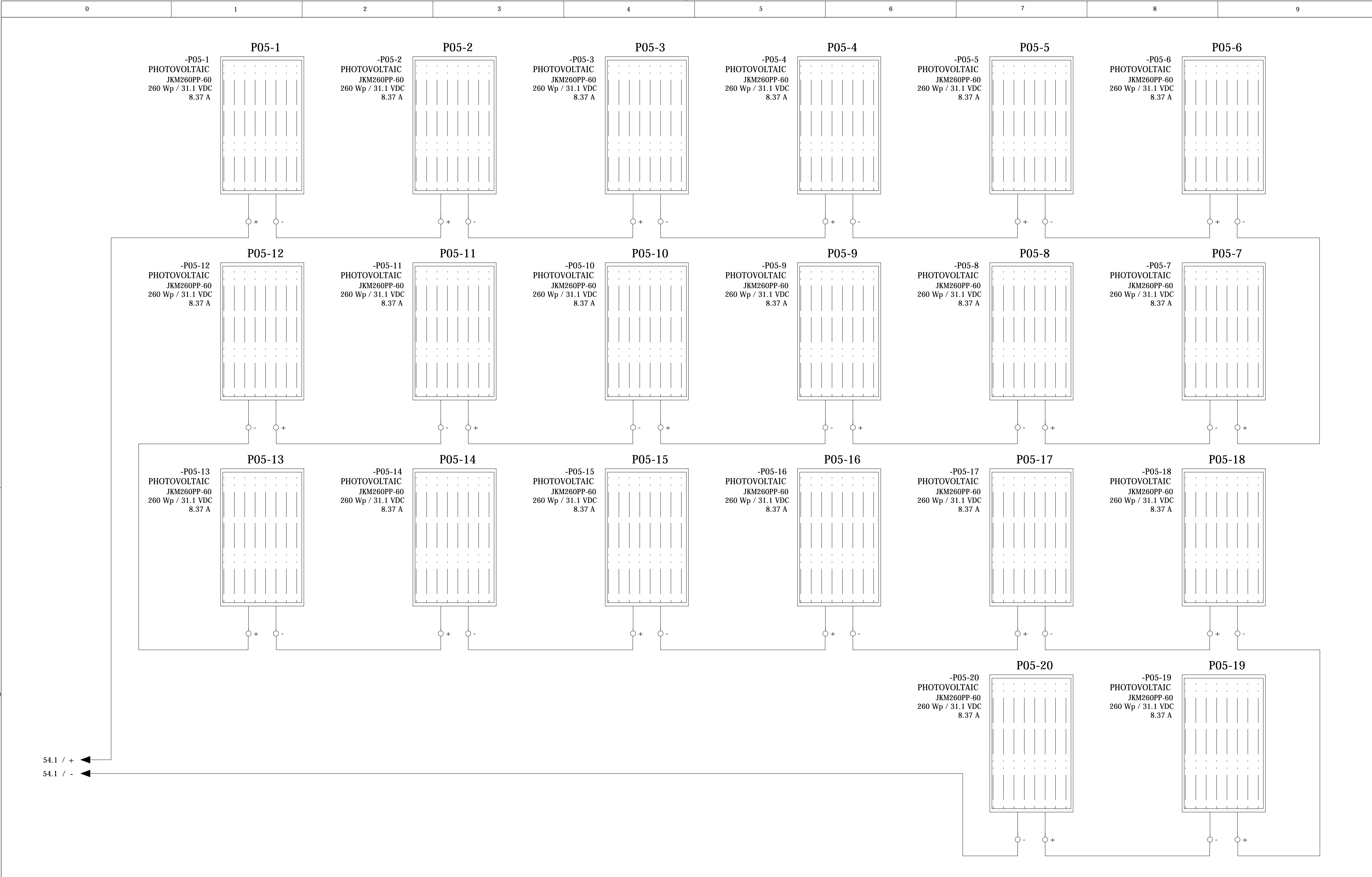


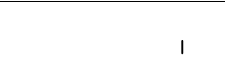
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SCSC-01.2016-058_Rev00_E.dwg



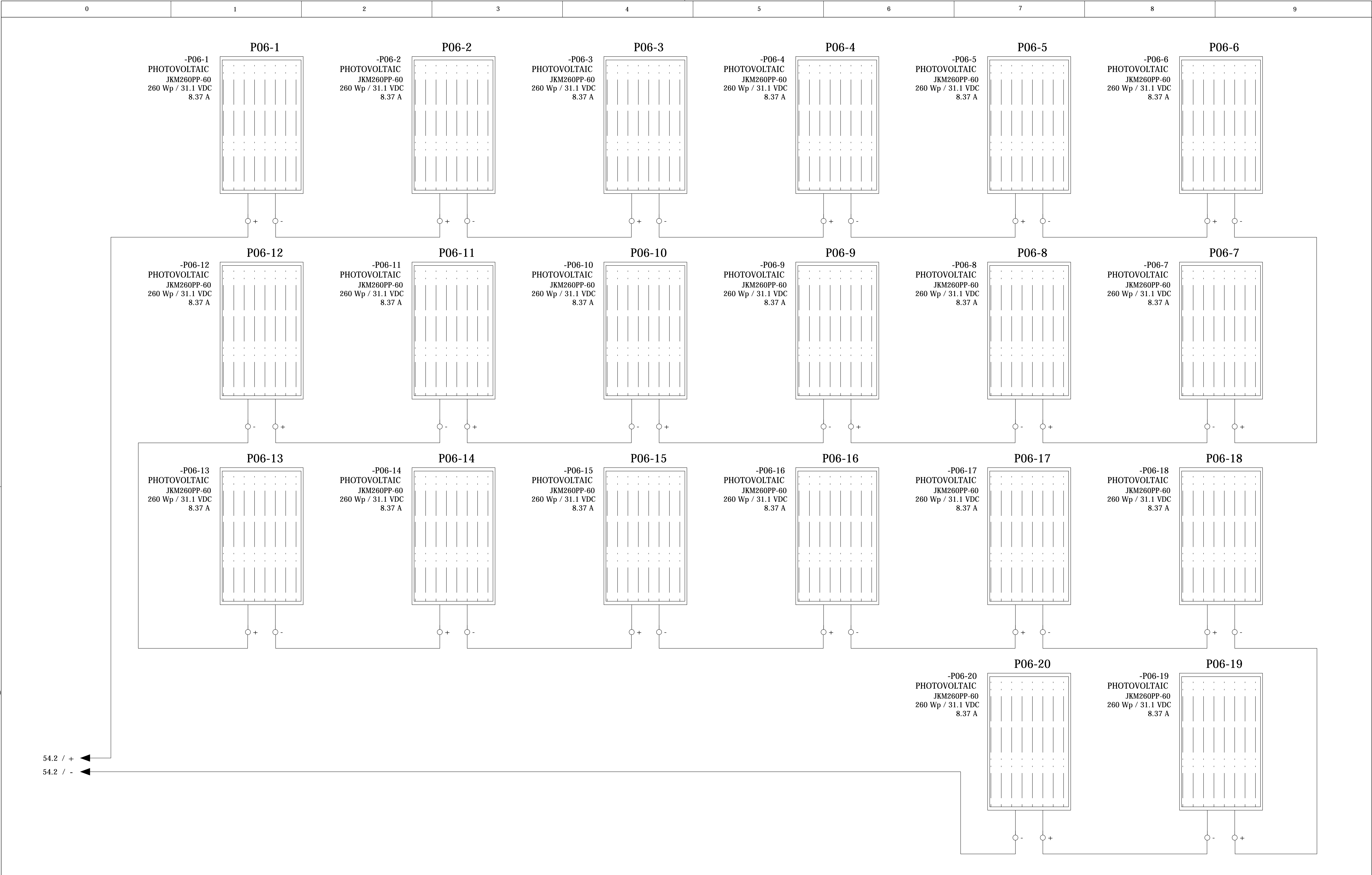
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										162101		+ SLR01			
										NUMBER DRAWING		REVISION			SHEET
										SCSC-01.2016		00			
31 Jul 2016	ISSUED	RawatN	SopakP	KasemT	PROJECT TITLE		FILE NUMBER		SCALE	SIZE	UNIT	NEXT			
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-058_Rev00_E.dwg		1 : 1	A4	mm	059			






<div>PHOTOVOLTAIC SYSTEM / STRING 5</div> <div>5.2 kWp / 622 VDC / 8.37 A</div> <div>JKM260PP-60 / Nominal Operating Cell Temp 45±2 C</div> <div>Application Class A and Fire Class C</div>					<div>TITLE</div> <div>SCSC</div>	<div>PLANT</div> <div></div>	<div>COMPANY</div> <div>TATA</div>	JOB NUMBER		= 162101				
								162101		+ SLR01				
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								SCSC-01.2016		00				
31 Jul 2016	ISSUED	RawatN	SopakP	KasemT	PROJECT TITLE		FILE NUMBER		SCALE	SIZE	UNIT	NEXT		
DATE	DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-059_Rev00_E.dwg		1 : 1	A4	mm	060		

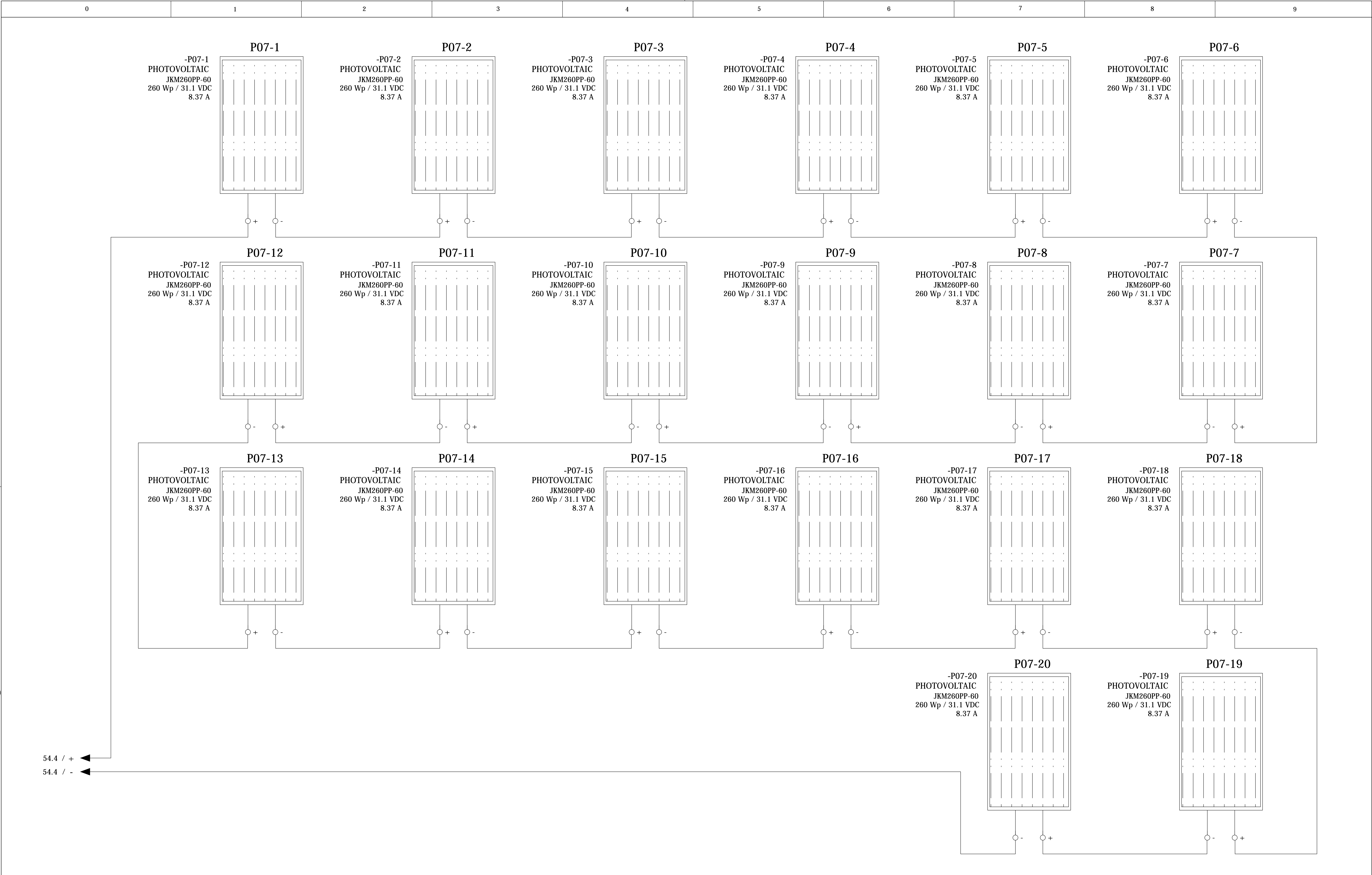
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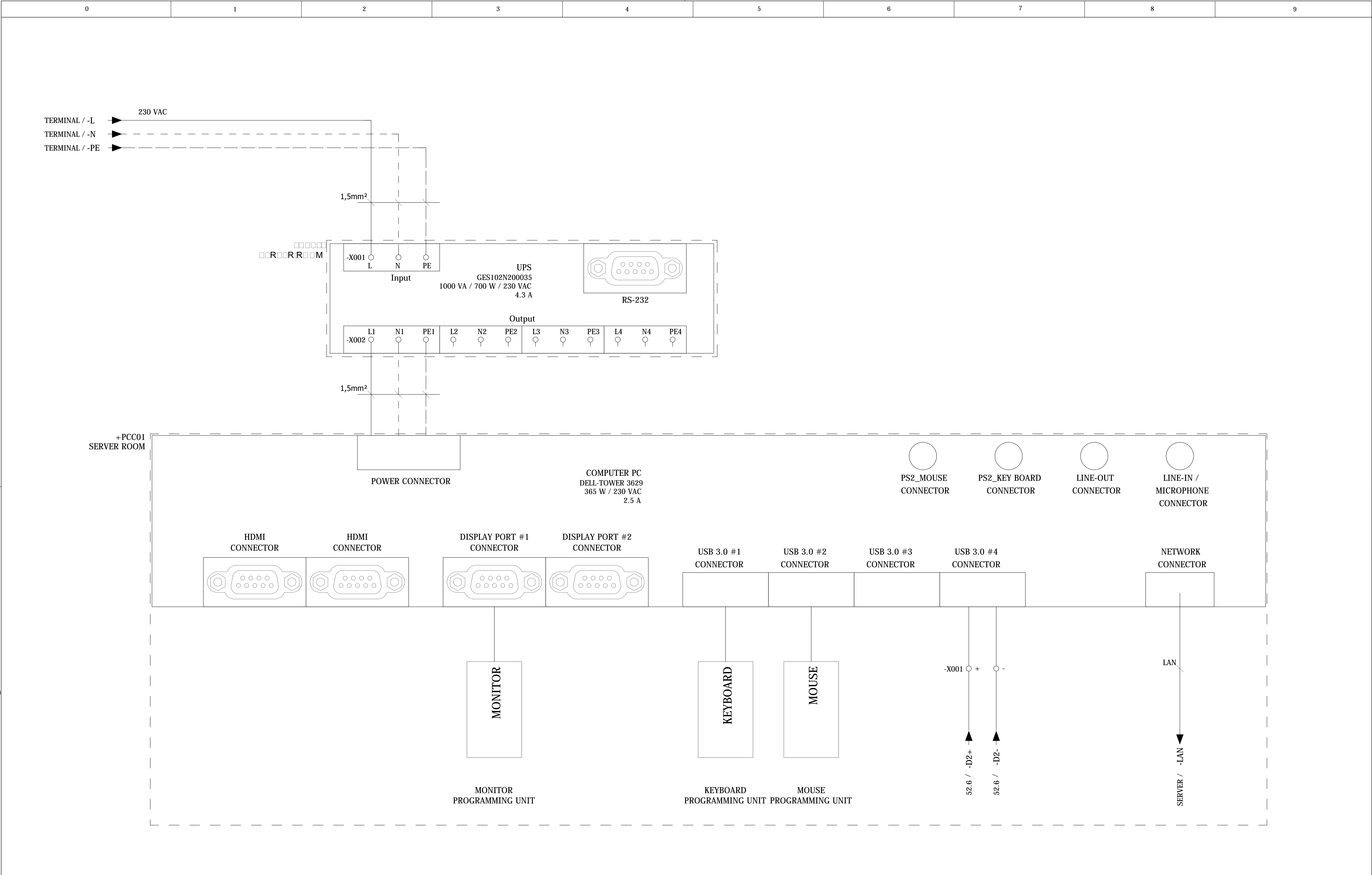
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										SCSC-01.2016		00				060			
31 Jul 2016	ISSUED		RawatN	SopakP	KasemT	PROJECT TITLE				FILE NUMBER		SCALE		SIZE		UNIT		NEXT	
DATE	DESCRIPTION		Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING				SCSC-01.2016-060_Rev00_E.dwg		1 : 1		A4		mm		061	
5.2 kWp / 622 VDC / 8.37 A																			
JKM260PP-60 / Nominal Operating Cell Temp 45±2 C																			
Application Class A and Fire Class C																			




SCSC-01.2016-061_Rev00_E.dwg



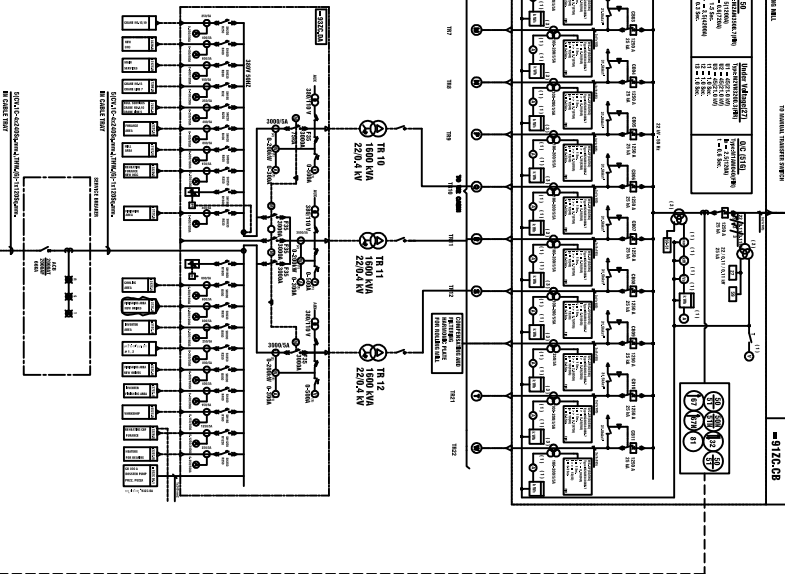
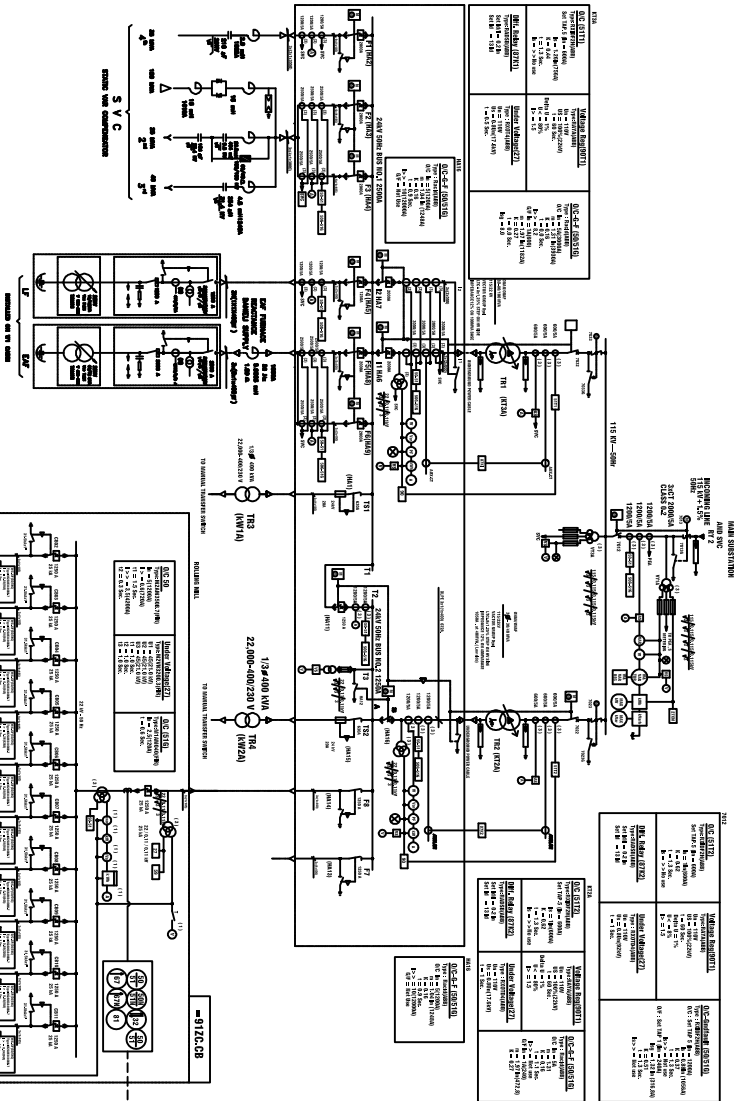
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31 Jul 2016	ISSUED		RawatN	SopakP							KasemT	PROJECT TITLE		FILE NUMBER		SCALE
	DATE		DESCRIPTION	Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-061_Rev00_E.dwg		1 : 1	A4	mm	062		

SCSC-01.2016-062_Rev00_E.dwg



					COMPUTER PC SYSTEM 365 W / 230 VAC / 2.5 A [50 Hz] Intel Core I7 Weight 9.1 kg and Reach maximum potential	TITLE		PLANT		COMPANY	JOB NUMBER		= 162101							
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31 Jul 2016	ISSUED		RawatN	SopakP							KasemT	PROJECT TITLE		FILE NUMBER		SCALE		SIZE		UNIT
DATE	DESCRIPTION		Drw. by	Chk. by	Apv. by	INSTALL SOLAR ROOF - ADMIN BUILDING		SCSC-01.2016-062_Rev00_E.dwg		1 : 1		A4		mm		101				

ระยะที่ 2

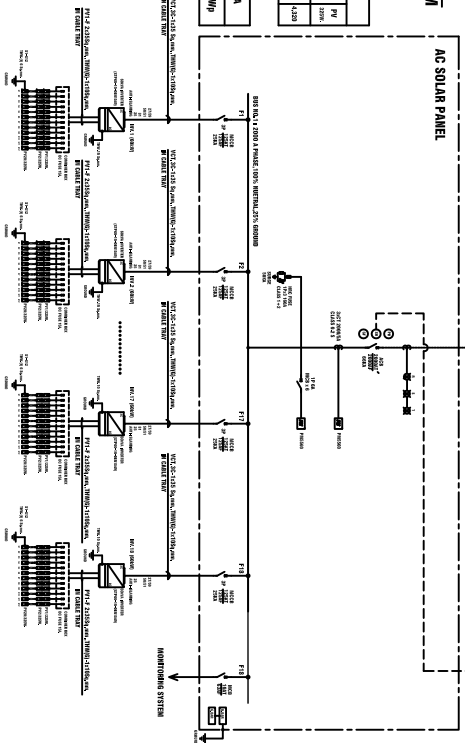


AC SOLAR PANEL
SINGLE LINE DIAGRAM

35SC				
LOCATION	INVERTER	PCS	STRIP	W
1	1	1	1	1

NOTE 1

600A INVERTER (SMA Modup STP 601) : 10 SETS, TOTAL 1,000 kVA
350W PV MODULE (GCL PR72 350W) : 4,320 PANELS, TOTAL 1,404 MWp



Ingenero(Thailand)Ltd.
5/23-24, M.2, Rangsit-Nakorn Nayok Road
Buengyitho, Thanyaburi
Phatumthani 12130 Thailand

DOCUMENT STATUS
AS-BUILT
DWG.

DATE
3/4/2018

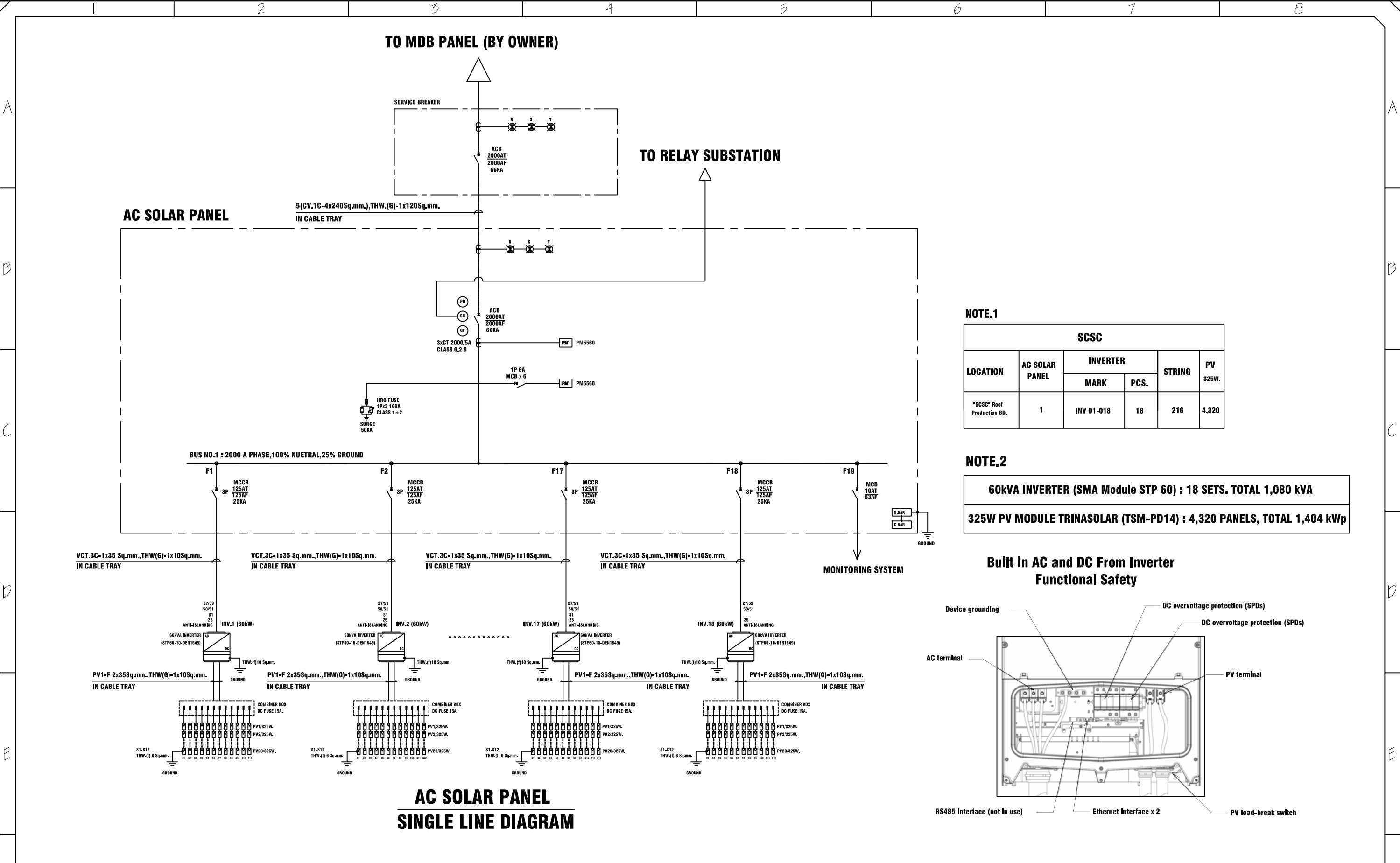
CLIENT / SIAM CONSTRUCTION STEEL (TATA)
- Mr. SONGPOL .P
- Mr. APICHET .J (ID) ๓๗๓.37626
INVESTOR / CLEANTECH SOLAR (THAILAND)
- DRAWN :
- Mr. SONGPOL .P
- -

ELECTRICAL ENGINEERS :
- Mr. SONGPOL .P
- Mr. APICHET .J (ID) ๓๗๓.37626
DRAWN :
- Mr. SONGPOL .P
- -

PROJECT MANAGER :
Mr. ARNONT .K (ID) ๓๗๓.43228
CHECKED :
-

PROJECT NAME :
SOLAR ROOFTOP 1,404 MWp
SIAM CONSTRUCTION STEEL CO.,LTD (TATA)
DWG. NAME :
ELECTRICAL SINGLE LINE DIAGRAM
DWG NO. : SHD-PV-05
SCALE : NONE

LOCATION :
MAP TA PHUT INDUSTRIA ESTATE
I-23, I-7 ROAD, T.MAP TAPHUT, MUEANG RAYONG
21150 RAYONG THAILAND
OWNER :
CLEANTECH SOLAR (THAILAND) LIMITED
SHEET : 05
OF : 57

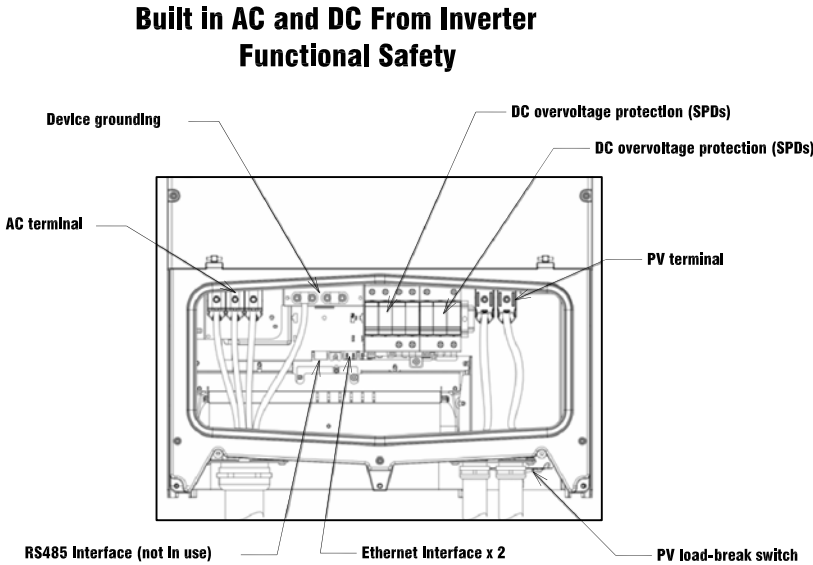



NOTE.1

SCSC					
LOCATION	AC SOLAR PANEL	INVERTER		STRING	PV 325W.
		MARK	PCS.		
SCSC Roof Production BD.	1	INV 01-018	18	216	4,320

NOTE.2

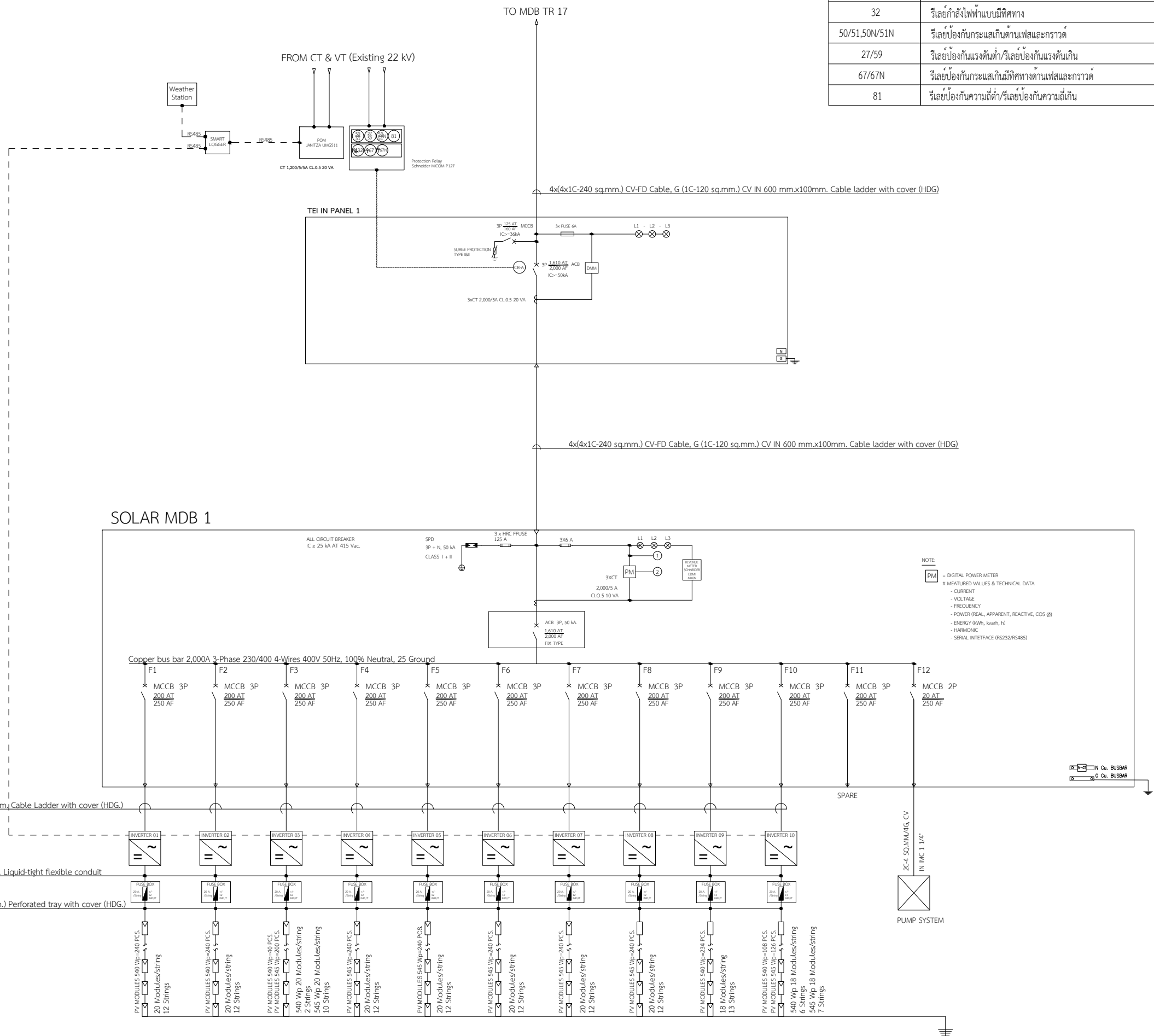
60kVA INVERTER (SMA Module STP 60) : 18 SETS. TOTAL 1,080 kVA
325W PV MODULE TRINASOLAR (TSM-PD14) : 4,320 PANELS, TOTAL 1,404 kWp



 Ingenero simply renewable	Ingenero(Thailand)Ltd. 5/23-24, M.2, Rangsit-Nakorn Nayok Road Buengyitho, Thanyaburi Phathumthani 12130 Thailand	DOCUMENT STATUS	DATE	CLIENT / SIAM CONSTRUCTION STEEL (TATA)	ELECTRICAL ENGINEERS :	PROJECT MANAGER :	PROJECT NAME :		LOCATION :			
		AS-BUILT DWG.	3/4/2018	-	Mr. SONGPOL .P	Mr. ARNONT .K (ID) ๓๗๓.43228	SOLAR ROOFTOP 1.404 MWp SIAM CONSTRUCTION STEEL CO.,LTD (TATA)		MAP TA PHUT INDUSTRIA ESTATE I-23, I-7 ROAD, T.MAP TAPHUT, MUEANG RAYONG 21150 RAYONG THAILAND			
				-	Mr. APICHET .J (ID) ๓๗๓.37626	-						
				INVESTOR / CLEANTECH SOLAR (THAILAND)	DRAWN :	CHECKED :	SOLAR PANEL SINGLE LINE DIAGRAM		OWNER : CLEANTECH SOLAR (THAILAND) LIMITED			
				-	Mr. JEERAPAT .U	-						
				-	-	-						
									DWG NO. :	SHD-PV-06	SCALE :	NONE

ระยะที่ 3

รหัสรีเลย์	รายละเอียด
32	รีเลย์กำลังไฟฟ้าแบบมีทิศทาง
50/51,50N/51N	รีเลย์ป้องกันกระแสเกินด้านฟาสและกราวด์
27/59	รีเลย์ป้องกันแรงดันต่ำ/รีเลย์ป้องกันแรงดันเกิน
67/67N	รีเลย์ป้องกันกระแสเกินที่ทิศทางด้านฟาสและกราวด์
81	รีเลย์ป้องกันความถี่ต่ำ/รีเลย์ป้องกันความถี่เกิน



DEVELOPER:

CONSTANT ENERGY

**CONSTANT ENERGY SERVICES
(THAILAND) Co., Ltd.**
23/30 Sorachai Building, 14/F, Sukhumvit Soi63,
Klongton-nua, Wattana, Bangkok 10110 Thailand
www.constantenergy.net

PROJECT:

SIAM CONSTRUCTION STEEL CO.,LTD.

บริษัท เหล็กก่อสร้างสยาม จำกัด

สำนักงานเกษตรและสหกรณ์ กระทรวง 21150
(THAILAND)
(12.678328, 101.146692)

EPC:



SUN 
Vision Technology
Company Limited

49/140 Village No. 9 Tiwanon-Pak Kret 34 (Lane 15)
Project 6 C4 Muang Thong Thani Village, Pak Kret,
Nonthaburi 11120

SIAM CONSTRUCTION STEEL (TATA)
RAYONG (CE-SCSC)

2.4 MW_p ROOFTOP

PV MODEL:

JA SOLAR JAM72S30 540/MR
JA SOLAR JAM72S30 545/MR

PV QUANTITY:

4,412 PANELS

SETTING:

(540 W) STRING OF 20 PV (26 UNIT), 18 PV (19 UNIT)
(545 W) STRING OF 20 PV (70 UNIT), 19 PV (44 UNIT),
18 PV (73 UNIT)

INVERTER MODEL:

HUAWEI SUN2000-100KTL-M1 (19 UNITS)
(or similar brand)

STRUCTURE:

CLENERGY, METAL ROOF SHEET
(or similar brand)

REVISION:

No.	DATE.	BY	DESCRIPTION.

REVISION OF DRAWING:

DRAWING TITLE:

SINGLE LINE DIAGRAM FROM MDB TO INVERTER

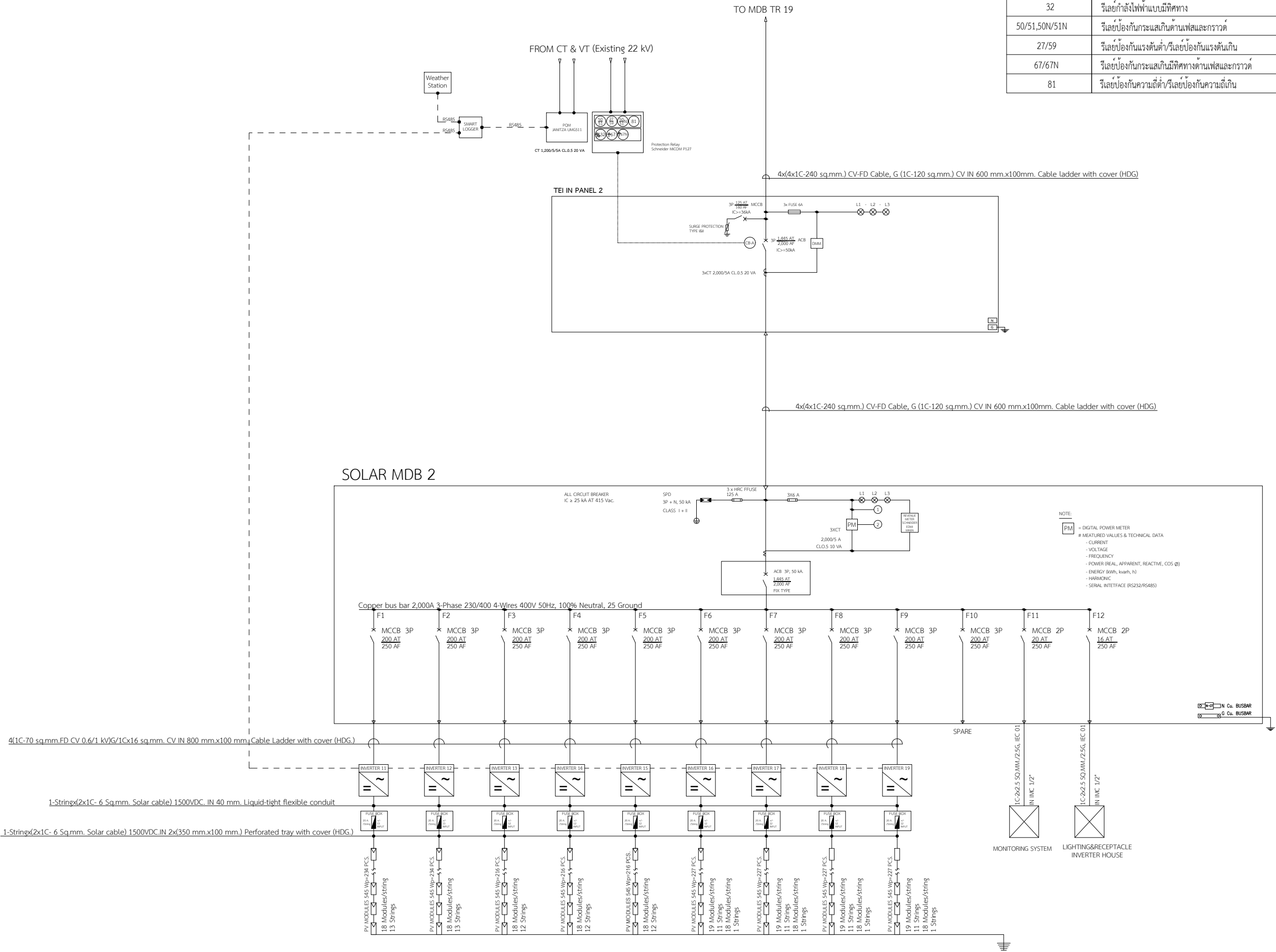
DRAWING No:

SCS-DW-EE-002

SHEET : 1	OF : 2	SIZE : A3
DATE : 30 SEPTEMBER 2022	SCALE :	

DRAW BY : SUN VISION TECHNOLOGY

รหัสรีเลย์	รายละเอียด
32	รีเลย์กำลังไฟฟ้าแบบมีทิศทาง
50/51,50N/51N	รีเลย์ป้องกันกระแสเกินด้านเฟสและกราวด์
27/59	รีเลย์ป้องกันแรงดันต่ำ/รีเลย์ป้องกันแรงดันเกิน
67/67N	รีเลย์ป้องกันกระแสเกินมีทิศทางด้านเฟสและกราวด์
81	รีเลย์ป้องกันความถี่ต่ำ/รีเลย์ป้องกันความถี่เกิน



DEVELOPER:
CONSTANT ENERGY

**CONSTANT ENERGY SERVICES
(THAILAND) Co., Ltd.**
23/30 Sorachai Building, 14/F, Sukhumvit Soi63,
Klongton-nua,Wattana, Bangkok 10110 Thailand
www.constantenergy.net

PROJECT:

SIAM CONSTRUCTION STEEL CO.,LTD.
บริษัท เหล็กก่อสร้างสยาม จำกัด
สำนักงานโครงการ รัชช 21150
(THAILAND)
(12.678328, 101.146692)

EPC:

SUN
Vision Technology
Company Limited
49/140 Village No. 9 Tiwanon-Pak Kret 34 (Lane 15)
Project 6 C4 Muang Thong Thani Village, Pak Kret,
Nonthaburi 11120

SIAM CONSTRUCTION STEEL (TATA)
RAYONG (CE-SCSC)

2.4 MWp ROOFTOP

PV MODEL:

JA SOLAR JAM72530 540/MR
JA SOLAR JAM72530 545/MR

PV QUANTITY:

4,412 PANELS

SETTING:

(540 W) STRING OF 20 PV (26 UNIT), 18 PV (19 UNIT)
(545 W) STRING OF 20 PV (70 UNIT), 19 PV (44 UNIT),
18 PV (73 UNIT)

INVERTER MODEL:

HUAWEI SUN2000-100KTL-M1 (19 UNITS)
(or similar brand)

STRUCTURE:

CLENERGY, METAL ROOF SHEET
(or similar brand)

REVISION:

No.	DATE.	BY	DESCRIPTION.

REVISION OF DRAWING:

DRAWING TITLE:

SINGLE LINE DIAGRAM
FROM MDB TO INVERTER

DRAWING No:

SCS-DW-EE-002

SHEET : 2 OF : 2 SIZE : A3

DATE :
30 SEPTEMBER 2022

SCALE :

DRAW BY : SUN VISION TECHNOLOGY