
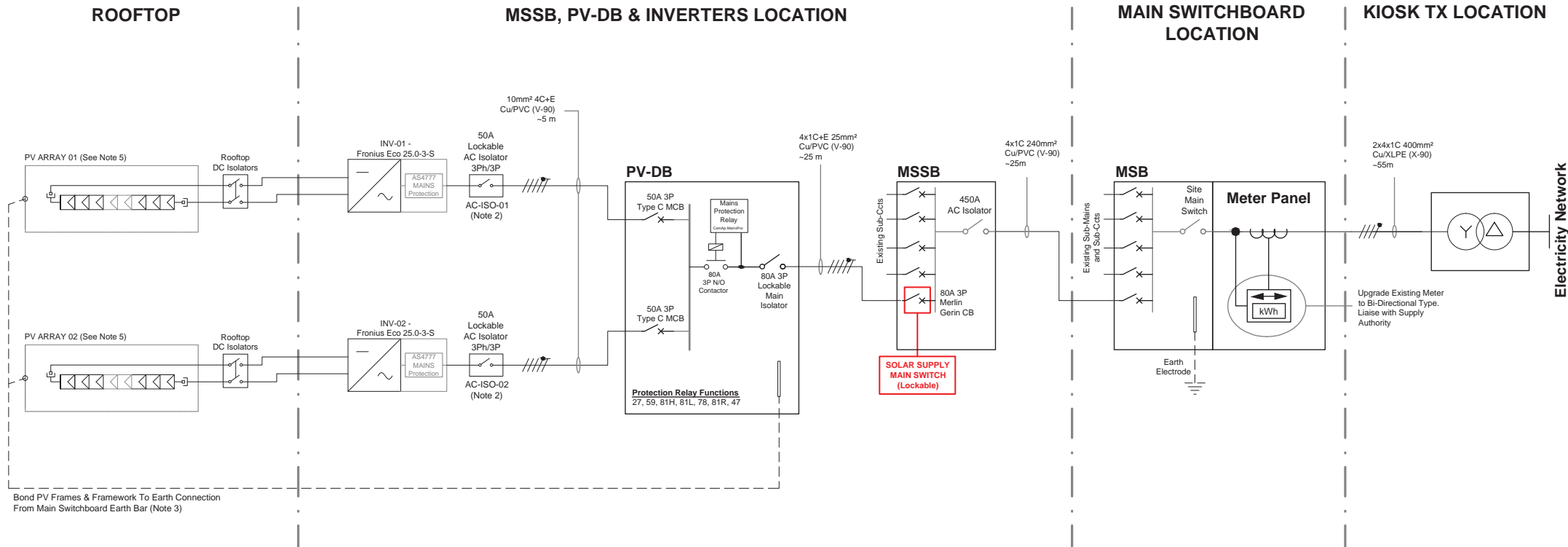


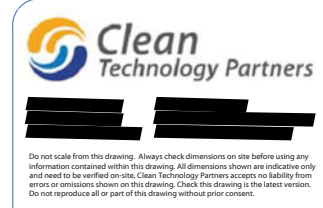
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1. Technology: Solar PV
 2. Maximum Power: 50 kW
 3. Contribution to fault levels: N/A
 4. Size & rating of the relevant Transformer: N/A
 5. Single line diagram: refer to following page
 6. Protection Systems & Communication Systems: refer to following page
 7. Voltage Control and reactive power capability: N/A
 8. Details specific to the location of facility: N/A



Bond PV Frames & Framework To Earth Connection From Main Switchboard Earth Bar (Note 3)

Components		
Component	Description	Quantity
Jinko JKM250P-60-A	PV Modules	240
Fronius Eco 25.0-3-S	INV-0X	2
80A 3P Merlin Gerin CB	Solar Main Switch	1
PVDB with MainsPro Protection Relay	PV-DB	1
50A 3P AC Isolator	AC-ISO-0X	2
IP56 DC Combiner Box with 1000Vdc 15A Fuses (1 per Inv.)	DC Junction Box	2
IPD ZFV32 DC Isolator (1 per String)	DC Isolator	10

PV SYSTEM DETAILS	
PV TYPE:	Jinko JKM250P-60-A
MODULE SIZE:	1650x992x40mm
No. MODULES:	240
TOTAL kWp:	60.00 kWp
ARRAY PITCH:	Varies
ORIENTATION:	Varies

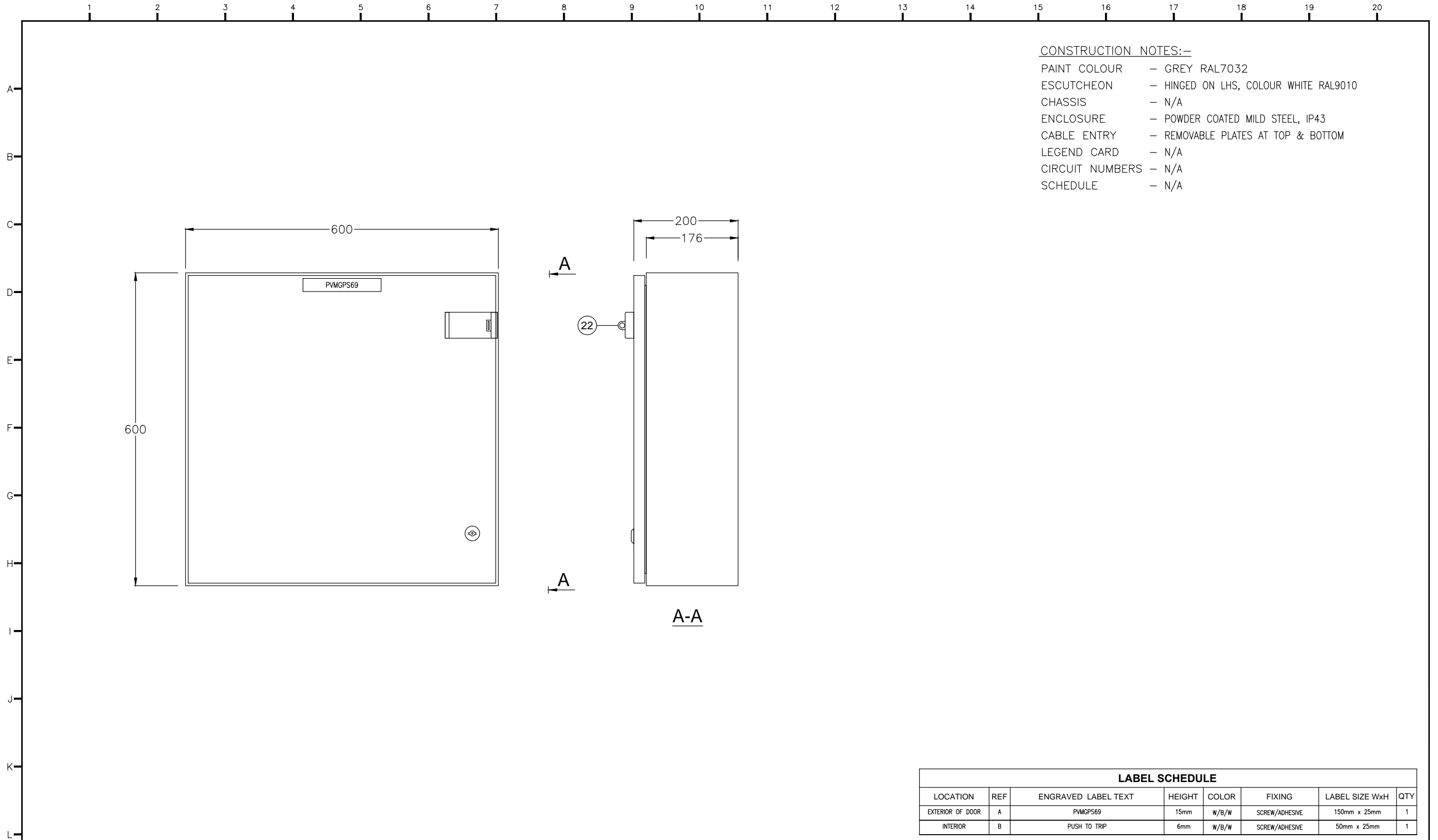


- Notes:
- All installation works shall comply with; AS3000, AS3008, AS5033, AS4777, CEC Guidelines, Supply Authority Service & Installation Rules and local authority guidelines.
 - All AC isolators shall be load break type. AC isolators installed externally shall be min IP65. An AC isolator is not required if the inverter is in line of sight of the PV-DB, where the inverter CB can be used for isolation.
 - Utilise WEEB washers and bond all array frames with earth cabling ensuring a continuous earth connection even with the removal of a PV module.
 - Ensure system is labelled to AS5033, AS4777.1, CEC guidelines and relevant state requirements.
 - Some DC details have been omitted for clarity.
 - Installer is to verify cable runs onsite. Installation method assumed to be 'unenclosed spaced' for Inverters sub-mains and 'unenclosed spaced' for PV-DB sub-mains. If any variations from the runs or installation method are required onsite, please contact CTP for guidance on cable sizing.

FOR APPROVAL


Project: [Redacted]
 Title: PV AC Electrical Schematic
 Dwg No: J1292-300 Rev: A1

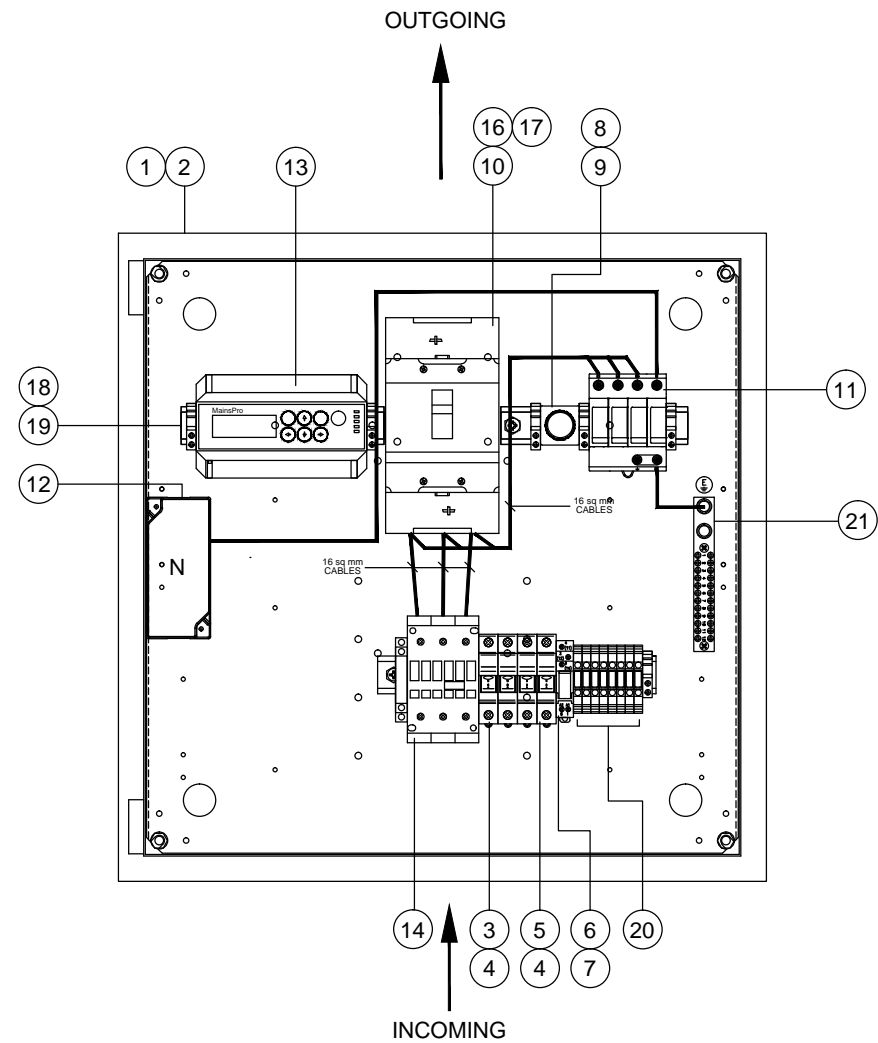
A1 12/01/16 For Approval Issue			
Rev	Date	Comments	Dwn Chkd
Dwn:	Chkd:	Date:	12/01/16
Job No:	J-1292	Scale:	NTS@A3



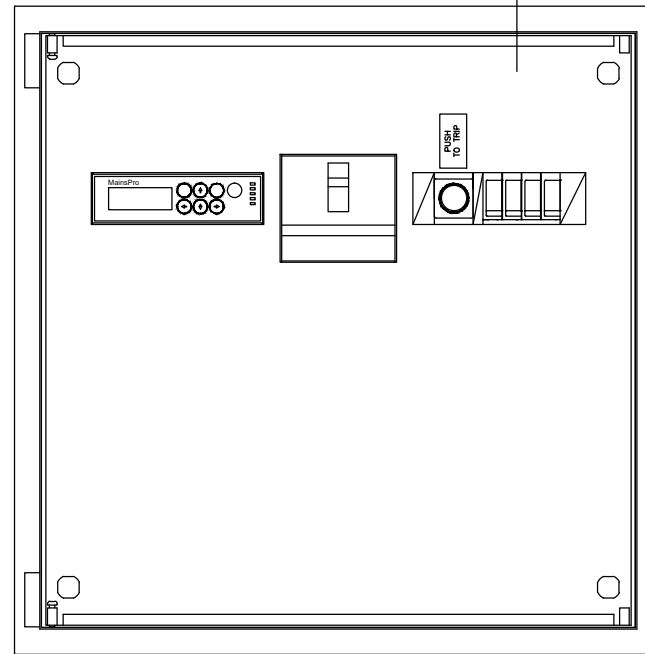
- CONSTRUCTION NOTES:-**
- PAINT COLOUR - GREY RAL7032
 - ESCUTCHEON - HINGED ON LHS, COLOUR WHITE RAL9010
 - CHASSIS - N/A
 - ENCLOSURE - POWDER COATED MILD STEEL, IP43
 - CABLE ENTRY - REMOVABLE PLATES AT TOP & BOTTOM
 - LEGEND CARD - N/A
 - CIRCUIT NUMBERS - N/A
 - SCHEDULE - N/A

LABEL SCHEDULE							
LOCATION	REF	ENGRAVED LABEL TEXT	HEIGHT	COLOR	FIXING	LABEL SIZE WxH	QTY
EXTERIOR OF DOOR	A	PVMGPS69	15mm	W/B/W	SCREW/ADHESIVE	150mm x 25mm	1
INTERIOR	B	PUSH TO TRIP	6mm	W/B/W	SCREW/ADHESIVE	50mm x 25mm	1

REV: A	DRAWN	CHECKED	APPROVED	DATE	REMARKS:	SHEET CONTENT:	 IPD GROUP LIMITED [Redacted]	PROJECT:	PVMGPS69 SHEET 1 OF 3	A3 E
B	FOR CONSTRUCTION		16/09/13		FRONT VIEW DOOR CLOSED	QUO.No : QNM64-R6		CLIENT:		
C	FOR CONSTRUCTION		23/09/13	DISCONNECTED TYPE TERMINALS ARE ADDED & PANEL ID CHANGED	W/O :	DIMENSIONS IN MILLIMETRES				
D	FOR CONSTRUCTION		16/12/2014	ADDED TWO TERMINALS	S/O :	3RD ANGLE PROJECTION				
E	FOR CONSTRUCTION		23/02/2015	CHANGED THE DRAWING NUMBER	LAB : 7	NOT TO SCALE		PANEL ID:		
			14/07/2015	ADDED THREE TERMINALS		DWG.REF. 9PV0012-010				



DOOR & ESCUTCHEON OMITTED



DOOR OMITTED

PERFORMANCE DATA

PART NUMBER	-	PVMGPS69
VOLTAGE	-	230/400VAC
FREQUENCY	-	50Hz
MAX CURRENT	-	100A
MAX. POWER	-	69kVA
PHASES	-	3
SHORT CIRCUIT	-	50kA
MECHANICAL OPS AC1	-	1000000
POWER DISSIPATION (PER POLE)	-	14.96W

PROTECTION RELAY PERFORMANCE

OPERATING TEMPERATURE	-	-20°C to +70°C
INGRESS PROTECTION	-	IP20
POWER SUPPLY	-	85-265, 110-370VAC, 8-40VDC, 45-65Hz
MEASUREMENT RANGE	-	120/230/400VAC, 8-40VDC, 50, 60Hz
MAX. MEASURED VOLTAGE	-	130%Un
MAX. MEASURED CURRENT	-	N/A
MAX. ALLOWED CURRENT	-	90mA (AC Supply), 600mA (DC Supply)
MEASUREMENT ACCURACY	-	VOLTAGE: 1% OF THE NOMINAL VALUE AT 50Hz±10% AND 25°C, FREQUENCY: 0,1Hz WITHIN THE RANGE 40 TO 70Hz TIMING:±1%
MAX. REACTION TIMES	-	VOLTAGE FAILURES: 55ms (IF TIME DELAY SET TO 0s) FREQUENCY FAILURES: 75ms (IF TIME DELAY SET TO 0s) LOSS OF MAINS: 45ms (IF TIME DELAY SET TO 0s)
POWER CONSUMPTION	-	600mA/8VDC, 90mA/85VAC
CT INPUT BURDEN	-	N/A

EQUIPMENT SCHEDULE

PART ID	PART NO.	EQUIPMENT DESCRIPTION	QTY
1	E65SHELL6G	DB SHELL 600H IP65 GREY EXCLUDING ESCUTCHEON	1
2	E-06U-MP	MOUNTING PAN FOR 600H SHELL FOR ALL EVOLUTION BOARDS	1
3	CMS103	FUSE HOLDER 32A 3 POLE MODULAR 690V DIN MOUNT	1
4	10G02	FUSE LINK 2A 500V FERRULE 10*38MM 120KA GENERAL PURPOSE	4
5	CMS101	FUSE HOLDER 32A 1POLE MODULAR 690V DIN MOUNT FUSE = 10*38MM	1
6	SJ1S-07LW	RJ1S RELAY BASE. FINGER-SAFE DIN RAIL MOUNT	1
7	RJ1S-CL-A240	RELAY SLIM LINE, SPDT, 240VAC 12A, WITH INDICATOR	1
8	P9DINRA	DIN RAIL ADAPTOR FOR 22MM PILOT DEVICES, 2 MODULES WIDE	1
9	P9XPN52002	PUSHBUTTON,FLUSH,GREEN, C/W 1NO CONTACT BLOCK,PLASTIC	1
10	FEN36TD100JF	MCCB,FEN160,3P,50kA,100A LTMD TRIP UNIT.	1
11	DGMTTC1275	SPD 4P Class 2 25kA 8/20us 5 WIRE 275VAC NON-MEN C/W FUSE	1
12	LT350/7	350A 7 HOLE LINE TAP STYLE NEUTRAL LINK, MAX 120MM CABLES	1
13	MAINSPRO	MAINS DECOUPLING RELAY ANSI CODES:27,59,81H,81L,78,81R	1
14	CL06A311M7	CONTACTOR CL 3P,90A AC1,50A 25kW AC3,1NO 1NC AUX,240VAC	1
15	E-M06PVFE-ID	600x600 ESCUTCHEON TO SUIT GPS ENCLOSURE	1
16	FEJS3	TERMINAL SHIELDS,FE FRAME,2PCE SET,3POLE ,SHORT.	1
17	E-FETH	FE & FD TOP HAT MOUNTING BRACKET	1
18	E-DRSP	DIN RAIL SUPPORT PILLAR 87MM X 14MM A/F M6X6MM	4
19	E-DINRAIL-L	LONG DIN RAIL CUT AND PUNCHED 428MM WITH 130 & 310MM CENTRES	1
20	CDTTU	DISCONNECT & TEST TERMINAL BLK 8MM WIDE TERMINAL	8
21	EB12	EARTH BAR 12 WAYLENGTH = 143mm	1
22	BOCOV52303	PADLOCK COVER FOR MILD STEEL ENCLOSURES	1

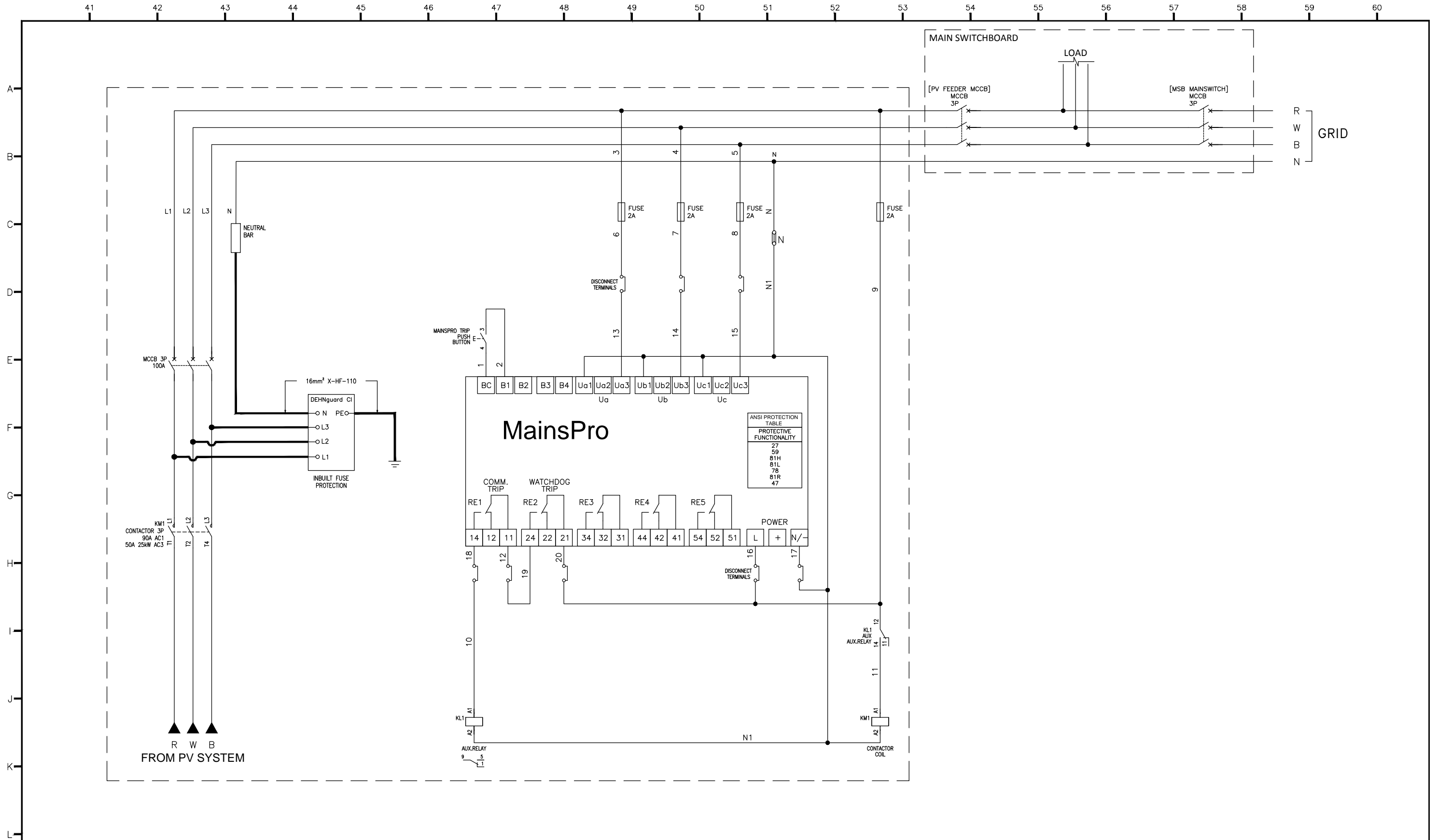
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C				16/12/2014	ADDED TWO TERMINALS
D				23/02/2015	CHANGED THE DRAWING NUMBER
E				14/07/2015	ADDED THREE TERMINALS

SHEET CONTENT:	
FRONT VIEW -LAYOUT DRAWING & EQUIPMENT SCHEDULE	
QUO.No : QNM64-R6	DIMENSIONS IN MILLIMETRES
W/O :	3RD ANGLE PROJECTION
S/O :	NOT TO SCALE
LAB : 7	DWG.REF. 9PV0012-010



IPD GROUP LIMITED

PROJECT:	
CLIENT:	
PANEL ID:	PVMGPS69 SHEET 2 OF 3
	A3 E



REV:	DRAWN	CHECKED	APPROVED	DATE	REMARKS:
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C				16/12/2014	ADDED TWO TERMINALS
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SHEET CONTENT:	
CONTROL CIRCUIT DIAGRAM	
QUO.No : QNM64-R6	DIMENSIONS IN MILLIMETRES
W/O :	3RD ANGLE PROJECTION
S/O :	NOT TO SCALE
LAB : 7	DWG.REF. 9PV0012-010


IPD GROUP LIMITED
 [Redacted]

PROJECT:	
CLIENT:	
PANEL ID:	PVMGPS69 SHEET 3 OF 3
	A3 E