

**NOTES:**

1. EVERY MODULE'S METALLIC FRAME MUST BE EARTHED BY CONNECTING THE FRAME TO THE METALLIC SUPPORTING STRUCTURE USING A 4mm<sup>2</sup> Cu/PVC/PVC PE CABLE.
2. EVERY METALLIC SUPPORTING STRUCTURE MUST BE EARTHED USING A 16mm<sup>2</sup> Cu/PVC/PVC PE CABLE.
3. EVERY PANELBOARD'S METALLIC ENCLOSURE AND METALLIC BACKSHEET MUST BE EARTHED USING A 4mm<sup>2</sup> Cu/PVC/PVC PE CABLE.
4. ALL NEW EARTHING POINTS TO BE CONNECTED TO A NEW EARTHING SYSTEM DEDICATED FOR THE SOLAR PV SYSTEM.
5. ALL PV CABLES SIZES TO BE 10 4mm<sup>2</sup> CABLES TO BE KBE SOLAR PV1-F DC CABLE (OR EQUIVALENT). TDV CERTIFIED (TDV 2 PIG 1169/08,07), Cu TINNED CLASS 5 CONDUCTOR (ACC. TO IEC 60228) CROSSLINKED SPECIAL POLYOLEFIN, HALOGEN FREE, OZONE RESISTANT, WEATHER & UV-RESISTANT INSULATION & JACKET MATERIAL, 1500VDC MAXIMUM OPEN CIRCUIT VOLTAGE RATING (CONDUCTOR-CONDUCTOR, NON EARTHED SYSTEM), FLAME RETARDANT ACC. TO IEC 60332-1.
6. ALL DC POWER CABLES FROM THE BATTERY BANK TO THE INVERTER/CHARGER MUST BE 10 70 mm<sup>2</sup> UNARMORED Cu/PVC/PVC. THE BATTERIES POSITIVE AND NEGATIVE BUSBARS SHALL BE WELL SEPARATED AND SECURED FOR SAFETY PURPOSES.
7. ALL AC POWER CABLES TO/FROM THE INVERTER MUST BE 4C 10mm<sup>2</sup> UNARMORED Cu/PVC/PVC, 0.6/1KV AND THE CORRESPONDING PE CABLES MUST BE 1C 10mm<sup>2</sup> UNARMORED Cu/PVC/PVC 0.5KV YELLOW/GREEN. ALL TO BE CONFORMING TO IEC 60502-1.
8. ALL INVERTERS CABLE GLANDS OPENINGS MUST BE TIGHTLY SEALED USING THE SUPPLIED INVERTER MATERIAL TO ENSURE AN IP65 PROTECTION LEVEL.
9. A POWER METER SHALL BE INSTALLED ON THE AC OUTPUT SIDE AFTER THE MTS TO DISPLAY AT LEAST THE VOLTAGE AND CURRENT READINGS.
10. A PHASE FAILURE/OVER UNDER VOLTAGE PROTECTION RELAY WITH A NORMALLY OPEN CONTACTOR SHALL BE INSTALLED ON THE AC INPUT SIDE OF THE INVERTER TO PROTECT THE SYSTEM.

**LEGEND:**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	MONOCRYSTALLINE PV MODULE RATED POWER: 410W Type: 412BY, Type: 9, 77A DIMENSIONS: 1414/50, 2015-994-45mm		SOLAR INVERTER THREE PHASE HYBRID INVERTER - 120VA
	DOUBLE POLE DC FUSE WITH FUSE HOLDER X REFERS TO THE VOLTAGE RATING (V) Y REFERS TO THE CURRENT RATING (A)		FOUR POLE AC THERMAL-MAGNETIC MINATURE CIRCUIT BREAKER X REFERS TO THE TRIP CURRENT RATING (A)
	DOUBLE POLE DC DISCONNECTING SWITCH X REFERS TO THE CURRENT RATING (A)		FOUR POLE AC THERMAL-MAGNETIC MINATURE CIRCUIT BREAKER WITH A CLASS AC RESIDUAL CURRENT PROTECTION Y REFERS TO THE TRIP CURRENT RATING (A) X REFERS TO THE EARTH LEAKAGE PROTECTION SENSITIVITY (mA)
	DOUBLE POLE DC SURGE ARRESTER X REFERS TO THE SURGE ARRESTER TYPE (CLASS) Y REFERS TO THE NOMINAL DISCHARGE CURRENT RATING IN (KA)		FOUR POLE AC SURGE ARRESTER Y REFERS TO THE SURGE ARRESTER TYPE (CLASS) X REFERS TO THE NOMINAL DISCHARGE CURRENT RATING IN (KA)
	BATTERY BANK NUMBER OF BATTERIES IN SERIES: 24 NUMBER OF BATTERIES IN PARALLEL: 1 BATTERY BANK VOLTAGE: 48V		DOUBLE POLE DC CIRCUIT BREAKER X REFERS TO THE TRIP CURRENT RATING (A)

**REVISIONS:**

REVISION NO.	DESCRIPTION	DATE
0	ISSUED FOR EXECUTION	03-04-23

**CONSULTANT:**



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**CLIENT:**

GIZ

**PROJECT DESCRIPTION:**

ROOF PV SYSTEM  
MENYARAH

**DRAWING TITLE:**

SLD

PROJECT PHASE:	DRAWING SCALE:	DRAWING DISCIPLINE:
EXECUTION	NTS	ELECTRICAL

