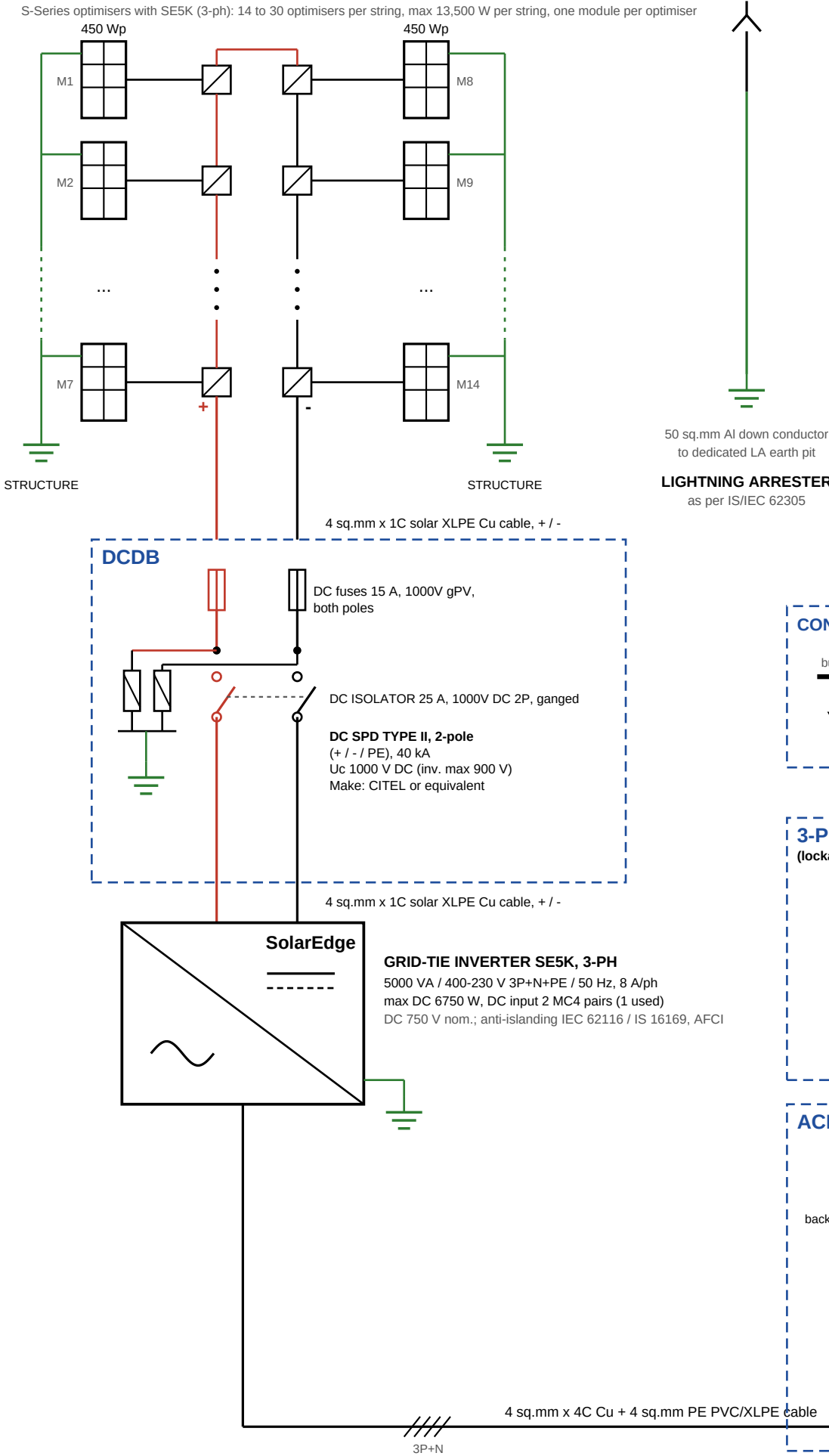
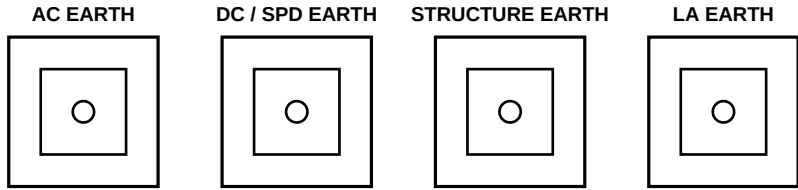
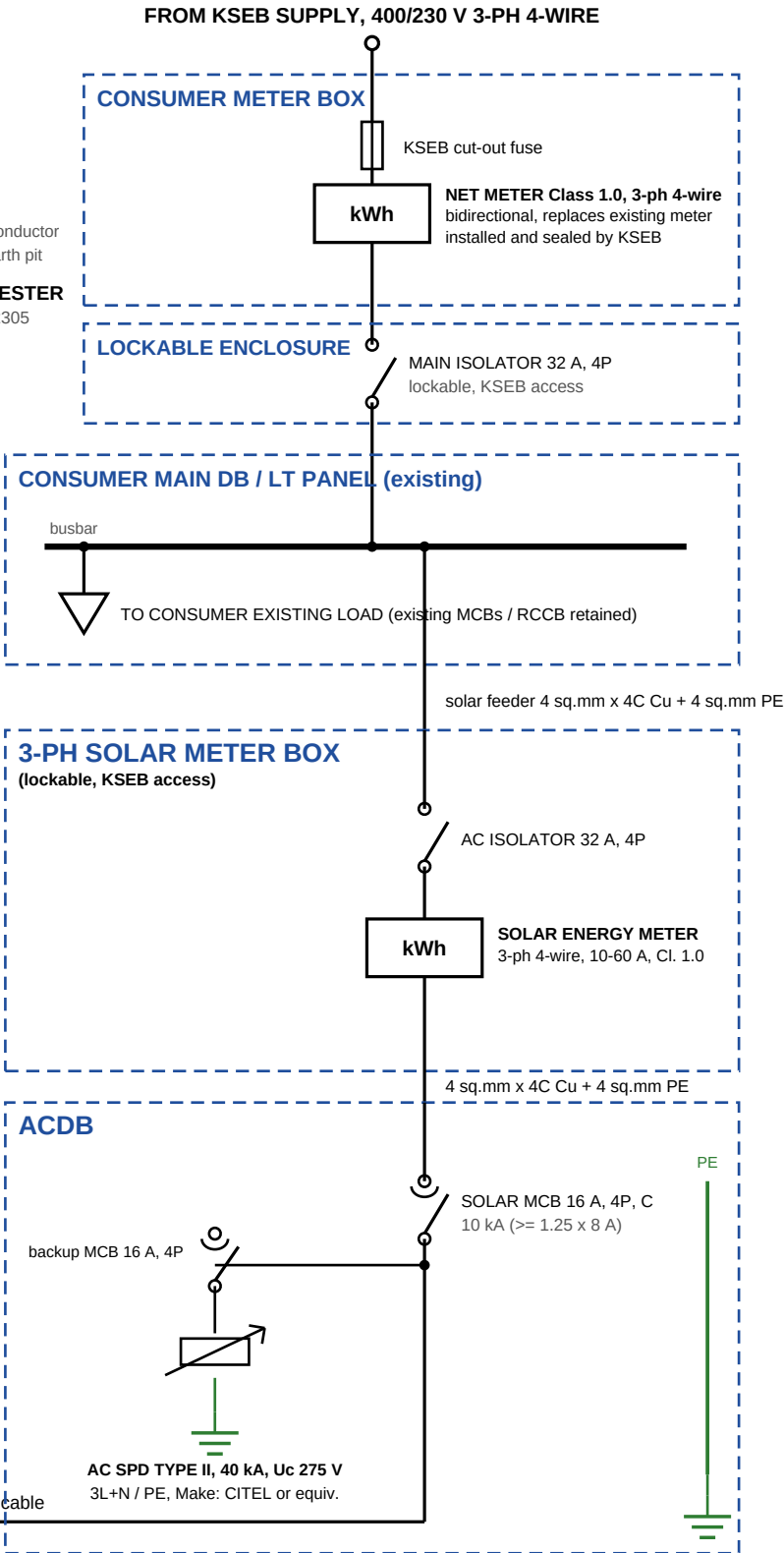


PV ARRAY: 14 x 450 Wp = 6.30 kWp, 1 STRING x 14 S-SERIES OPTIMISERS (1:1)

S-Series optimisers with SE5K (3-ph): 14 to 30 optimisers per string, max 13,500 W per string, one module per optimiser



Earth pits: GI pipe 40 mm dia x 2.5 m (or Cu-bonded rod), chemical backfill; 16 sq.mm Cu / 25x3 GI; LA 50 sq.mm Al. LA earth kept separate; AC, DC and structure earths interconnected. Earth resistance < 5 ohm (CEA Reg. 41).



GENERAL NOTES

1. Scheme: KSEB net metering under PM Surya Ghar: Muft Bijli Yojana. Solar capacity shall not exceed the sanctioned connected load; prior feasibility approval from KSEB section office.
2. Three-phase service connection required for solar capacity above 5 kW (KSEB).
3. Inverter: grid-interactive, anti-islanding, BIS IS 16221 / IS 16169, IEC 61727 / 62116 compliant.
4. Modules: ALMM-listed, DCR (domestic cells and modules) as required for central subsidy.
5. Net meter (bidirectional) supplied / tested / sealed by KSEB; solar generation meter Class 1.0 installed in a separate lockable box with KSEB access (MNRE requirement).
6. Lockable AC isolator accessible to KSEB staff; 'DUAL SUPPLY - SOLAR PV' warning labels at consumer DB, meter box and ACDB (CEA Safety Regulations 2010 / 2023).
7. Earthing: separate pits for AC, DC/SPD, structure and LA; < 5 ohm; LA down conductor 50 sq.mm Al, LA earth not bonded to others (IS/IEC 62305). Earth electrodes as per IS 3043.
8. If an RCD is called for by the Electrical Inspectorate, use Type A, trip >= 100 mA (SolarEdge).
9. Module mounting structure hot-dip galvanised, designed for wind load per IS 875 (Part 3).
10. DC cables 1.1 kV UV-resistant XLPE in UPVC conduit; AC cables FRLS PVC/XLPE; voltage drop <= 2%.
11. One S-Series optimiser per module; string length and power within SolarEdge limits; no mixing.
12. Installation to CEA Technical Standards for Connectivity (2013, as amended) and KSEB Soura norms.
13. Internet (Wi-Fi/Ethernet) for SolarEdge monitoring; commissioning via SetApp; O&M per schedule.

DESIGN DATA - SE5K (5 kW) WITH S-SERIES OPTIMISERS

PV modules	14 x 450 Wp = 6.30 kWp (DC/AC ratio 1.26)
Optimiser	SolarEdge S-Series: 1100 W in, module Voc <= 125 V, 15 A in, 18 A / 80 V max out
String	1 string, 14 optimisers (min 14, max 30); 6300 W <= 13,500 W
Inverter AC	5000 VA, 400/230 V 3-ph 4-wire, 50 Hz, max 8 A/ph continuous
Inverter DC	max 6750 W, 900 V max, 750 V nominal, max 8.5 A
DC fuses	15 A, 1000V gPV, both poles (>= 1.25 x 8.5 A)
DC isolator	25 A, 1000V DC 2P, ganged
DC SPD	Type II, 2-pole, Uc 1000 V DC, 40 kA
DC cable	4 sq.mm x 1C solar XLPE Cu, 1.1 kV, UV rated
String voltage	750 V in operation (inverter regulated); never above 900 V inverter max; 1 V/optimiser when off
AC MCB	16 A, 4P, C-curve, 10 kA (>= 1.25 x 8 A per phase)
AC SPD	Type II, 3P+N, 40 kA, Uc 275 V, backup MCB 16 A, 4P
AC cable	4 sq.mm x 4C Cu + 4 sq.mm PE
AC isolator	32 A, 4P, lockable, in solar meter box
Gen. meter	3-ph 4-wire, 10-60 A, Class 1.0, in-line
Earthing	4 pits: AC, DC/SPD, structure: 16 sq.mm Cu or 25x3 GI strip; LA: 50 sq.mm Al
Bonding	10 SWG bare Cu: module frames to structure and frame-to-frame jumpers
Phases	L1/L2/L3 + N; inverter neutral connected (WYE with neutral)

LEGEND

	PV module		S-Series power optimiser		SPD
	MCB		Isolator		Fuse
	Earth		Energy meter		Junction
	DC positive		DC negative / AC		Earth / PE

CUSTOMER / SITE DETAILS

Customer name	
Consumer number	
Site address / KSEB section	

SOLAREEDGE ON-GRID PV SYSTEM - 5 kW THREE PHASE
SE5K HD-WAVE + S-SERIES OPTIMISERS - SINGLE LINE DIAGRAM
PROVISIONAL - VERIFY BEFORE USE

Drawing No.	Revision	Scale	Size
JSS/SE/SLD/3PH/5KW/01	00	NONE	A3
Originated by	Checked by	Approved by	Date