

Notes:

Cable requirement/calculations based on SAS ENERGY document CBLDOC1 in accordance with the following:

1. The Electricity at Work Regulations
2. The Health & Safety at Work Act
3. BS 7671 Requirements for Electrical Installations
4. The IEE Wiring Regulations
5. BS EN 60904 Photovoltaic devices
6. BS EN 61173 Overvoltage protection for photovoltaic power generating systems
7. ENA ER G99 Recommendations for the connection of Generating Plant to Public Electricity Suppliers Distribution Systems
8. IEC 60364-7-712 Electrical installations in Buildings Part 7-712: Requirements for special installations or locations. Solar PV power supply systems.

THE CONSTRUCTION DESIGN AND DRAWING IS BASED ONLY ON THE PRE-CONSTRUCTION INFORMATION PROVIDED BY THE CLIENT. FAILURE BY THE CLIENT TO FURNISH INFORMATION THAT COULD BE AVAILABLE, MAY INCUR ADDITIONAL COSTS AT THE CLIENT'S EXPENSE, UPHELD BY CDM 2015 REG 5, GUIDANCE NOTE 43.

THE SIZE OF THE SOLAR PV CONNECTION POINT(S) HAVE BEEN DESIGNED BASED ON THE INFORMATION PROVIDED. SAS ENERGY LTD CANNOT BE HELD RESPONSIBLE FOR ANY ADVERSE ISSUES IF THE SUPPLIED INFORMATION IS INCORRECT.

ROOF ACCESS & LIFTING STRATEGY TO BE CONFIRMED IN THE APPROVED CPP AND RAMS.

THE INSTALLATION OF A ROOF MOUNTED PV SYSTEM WILL INCREASE FUTURE REQUIREMENTS FOR WORK ON THE ROOF AREA, WHICH MAY NEED FURTHER INVESTIGATION AND BE DETAILED IN THE H&S FILE SUPPLEMENTARY DOCUMENTATION.

DUE TO THE AGE AND CONDITION OF THE ROOF SHEETS, GUTTERS, AND MAKE-UP OF THE OVER CLAD ROOFING, THE CONTRACTOR CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE OR LEAKAGES OF ANY KIND, DUE TO THE INSTALLATION OF H&S CONTROLS, EDGE PROTECTION, FRAGILE SURFACE PROTECTION, SCAFFOLDING, WALKING AREAS, LOADING OR INSTALLATION. THE FINAL PV SYSTEM WILL NOT AFFECT THE INTEGRITY OF THE ROOF, BUT NO ROOF CONDITIONING PCI HAS BEEN SUPPLIED WITH REGARD TO THE PREVIOUS STATEMENT.

HANDRAILS, MAN SAFE AND SCAFFOLDING MAY BE REQUIRED FOR FUTURE MAINTENANCE OF THE PV SYSTEM, AS PART OF AN ONGOING CDM 2015 PROCESS.

ALL CONSTRUCTION DESIGNS AND DRAWINGS WILL BE DEEMED ACCEPTABLE TO BOTH THE CLIENT AND THE PD, UNDER CDM 2015, ON RECEIPT OF A WRITTEN CONTRACT, EMAILS, RELEVANT PURCHASE ORDER/S OR COMMENCEMENT OF WORK OF ANY KIND (INCLUDING ENABLING WORKS).

NOTE:

ALL AC AND DC CABLES ARE TO BE COLOUR CODED TO BS:7671 STANDARD WITH SUITABLE PRODUCT/SLEEVEING



REV	REVISION DETAIL	BY	APV	DATE
C2	GENERAL UPDATE			9.4.21



CLIENT

FERN ROOFTOP SOLAR (A) LIMITED

JOB
MAN1
MANCHESTER AIRPORT,
6 SUNBANK LANE.
M90 5AA

TITLE
T4 INVERTER ELEVATION
DETAILS

STATUS
90% DETAILED DESIGN

DRAWN/CHKD	DATE	SCALE
NT	1/4/2021	1:25 @ A1

DRAWING No.
MAN1_M62_DET_T3 INVERTER
ELEVATION DETAILS_C2

225mm DC CABLE CONTAINMENT, HD GALVANISED TRAY RISES TO ROOF LEVEL. TRAY COVERS TO BE FITTED AND PAINTED TO MATCH THE BUILDING FACADE



INVERTER IMAGE

PV DISTRIBUTION BOARD C/W INTEGRATED SCADA SYSTEM

AC CABLE CONTAINMENT, HD GALVANISED TRAY FIXED WITH CANTILEVER BRACKETS

AC ISOLATORS

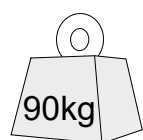
GALVANISED UNISTRUT FRAMEWORK SUPPORTING INVERTERS

PV DISTRIBUTION BOARD C/W INTEGRATED SCADA SYSTEM

3 No. INVERTERS MOUNTED ON A UNISTRUT FRAMEWORK THAT IS FIXED BACK TO THE STEEL PROFILE WALL OF THE BUILDING WITH SELF DRILLING SCREWS AT 500mm CENTRES FRAMEWORK SUPPORTED AND BOLTED TO FLEX-FOOT SUPPORT SYSTEM WITH ANGLED BRACES IN 3 LOCATIONS

INVERTER DETAILS

Height = 700mm
Width = 1,035mm
Depth = 365mm
IP Rating = IP66



6 - Total protection from infiltration of dust

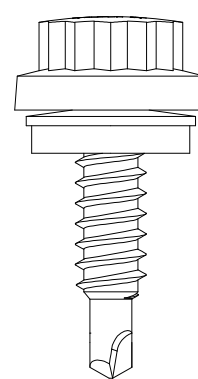
6 - Protection against powerful jets of water



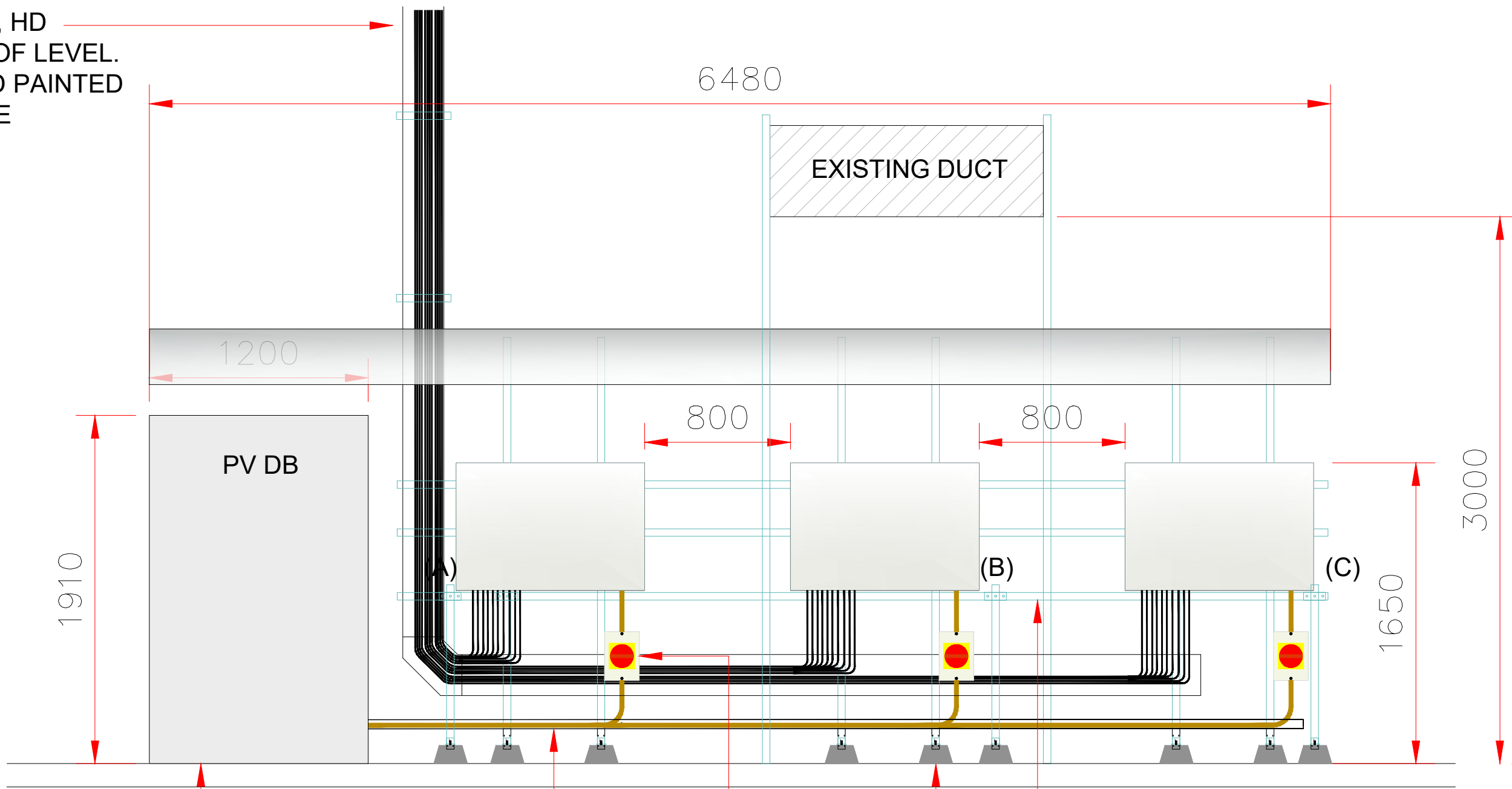
UNISTRUT IMAGE



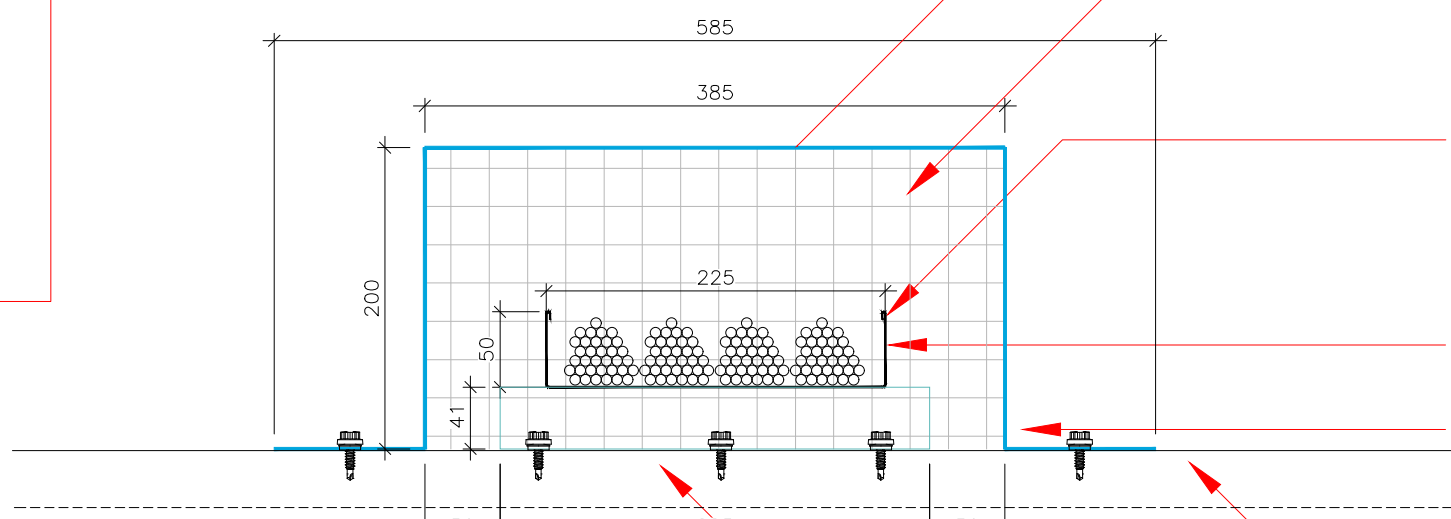
CANTILEVER BRACKET



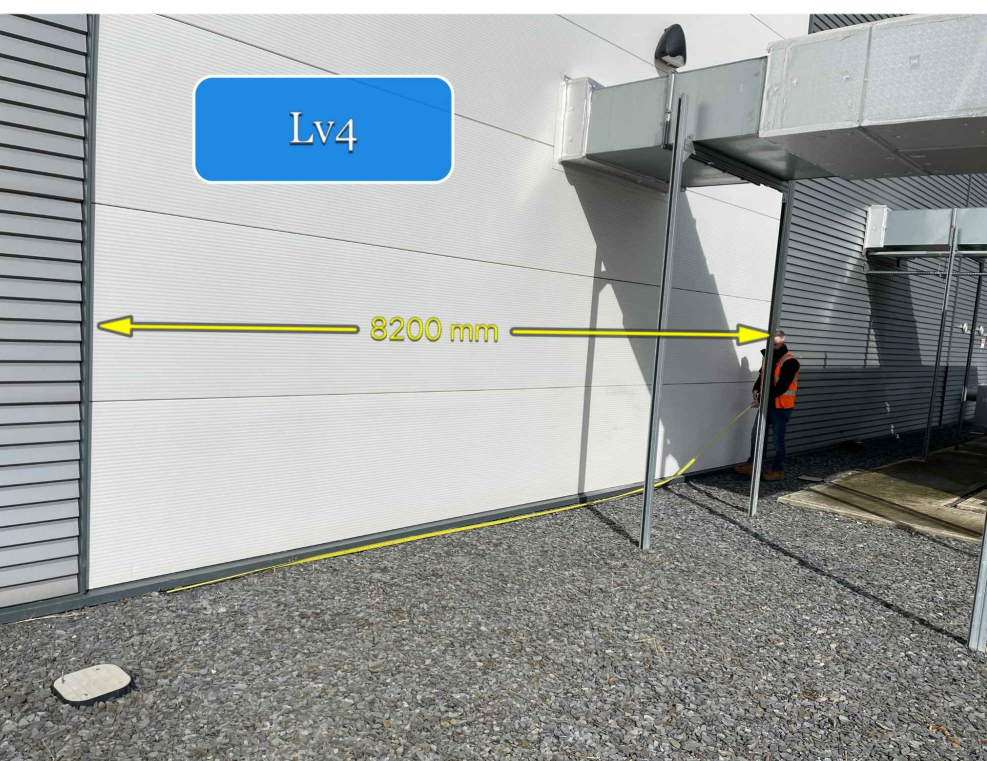
SELF DRILLING SCREW



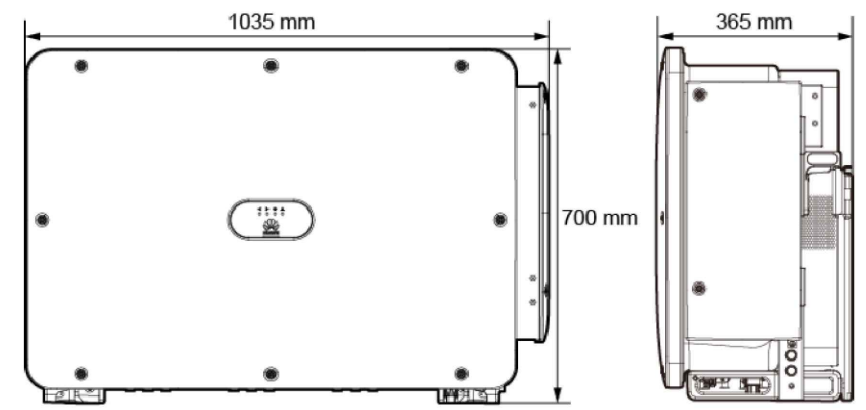
FRONT ELEVATION



CABLE TRAY DROP - PLAN



INVERTER LOCATION



INVERTER DIMENSIONS

GALVANISED BOX SECTION COVERING CABLE TRAY DOWN SIDE OF BUILDING. POWDER COATED TO MATCH EXISTING PAINTWORK

13mm SQUARE MESH FITTED AT THE TOP AND BOTTOM OF THE EXTERNAL CABLE TRAY ROUTE

CABLE TRAY FIXED TO UNISTRUT USING GALVANIZED GUTTER BOLTS

DC CABLES

41x41mm GALVANISED UNISTRUT SECTION

BOX SECTION CAPPING SCREWED TO BUILDING ON EVERY 4th HORIZONTAL PROFILE

UNISTRUT SUPPORT SECTIONS FIXED TO EXTERNAL CLADDING AT 1m SPACING USING 4 No. SELF DRILLING THIN SHEET SCREWS

WEATHERPROOF CANOPY OVER INVERTERS & PV DB

INVERTER

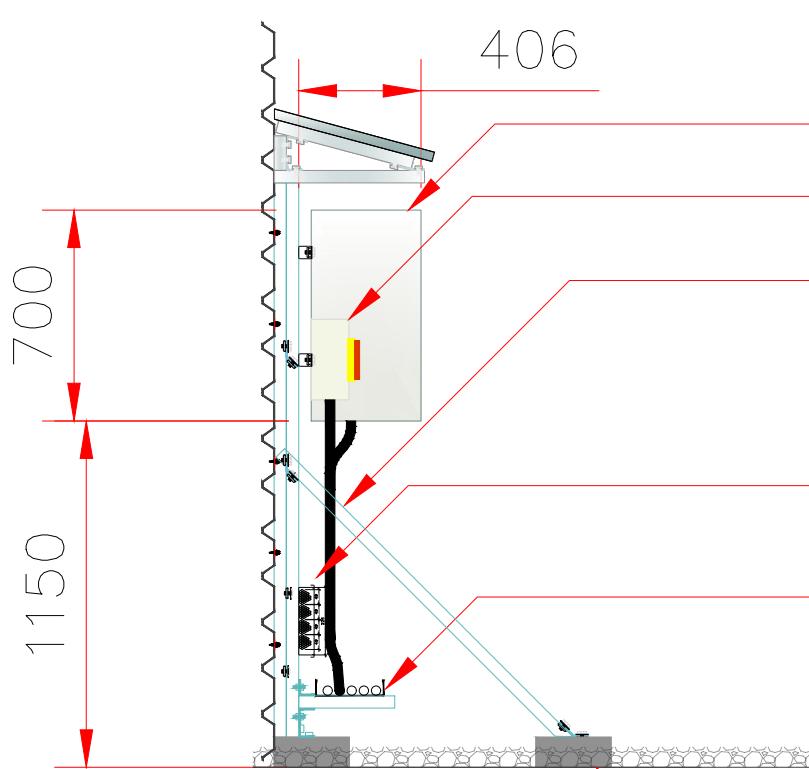
AC ISOLATOR

45° UNISTRUT BRACE SUPPORT

DC CABLES ON 225mm WIDE HD CABLE TRAY FIXED TO 41x41mm UNISTRUT SUPPORTS

AC CABLES ON 225mm CANTILEVER TRAY FIXED TO 41x41mm UNISTRUT SUPPORTS

PV FRAME SUPPORTED ON FLEX FEET CABLE TRAY SUPPORTS



ELEVATION