

Detailed Drawings

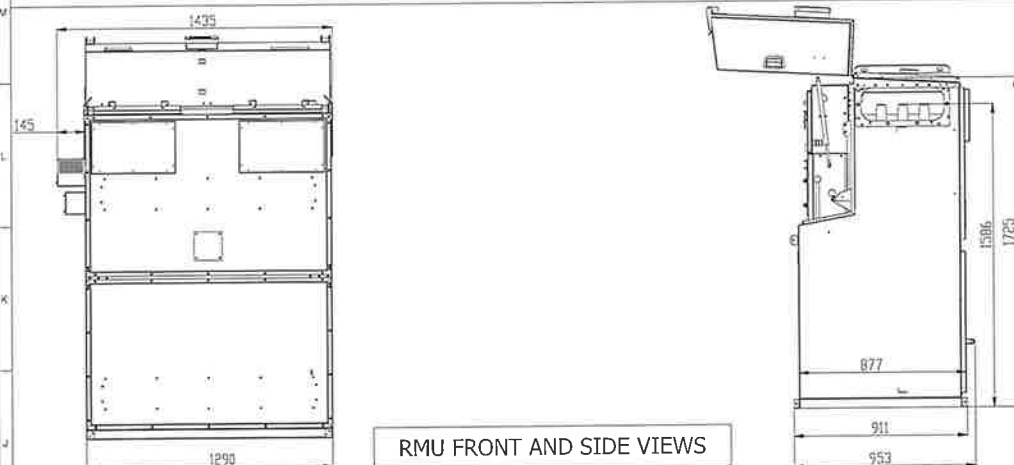


Total Page Number: 4 Pages

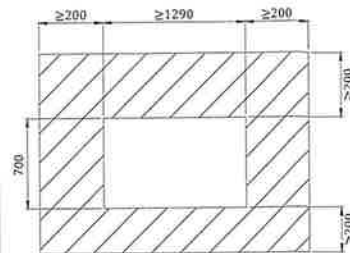
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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EARTH		CIRCUIT BREAKER		SOCKET (FOR EFI TEST)		LIMIT SWITCH
	TOROIDAL CURRENT TRANSFORMER		CAPACITIVE VOLTAGE INDICATOR		N/O CONTACT		PREMIUM SF6 / AIR MEDIUM VOLTAGE BUSHING
	DISCONNECTOR WITH EARTHING		COIL		N/C CONTACT		TERMINAL BLOCK
	LOAD BREAK SWITCH		CURRENT TRANSFORMER		EARTH FAULT INDICATOR		C/O CONTACT

SEC ITEM NUMBER: --

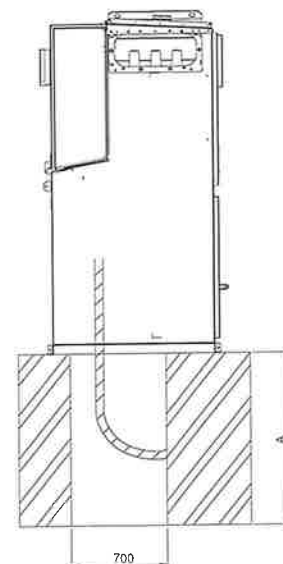


RMU FRONT AND SIDE VIEWS



FOUNDATION DETAILS

The recommended for dimension A
for cable Al 500 mm² : 1200 mm
for cable Cu ... mm² : ... mm



FOUNDATION CONNECTION DETAILS



GENERAL CHARACTERISTICS	
TYPE OF SWITCHGEAR	SFA-RM
MEAN ALTITUDE FROM SEA LEVEL	<=1000 METERS
AMBIENT TEMPERATURE	40°C (MAX.) -5°C (MIN.)
DEGREE OF PROTECTION	☐ INDOOR IP41 ☒ OUTDOOR IP 54
DIRECTION OF MAIN CABLES ENTRY	BOTTOM
BUSBAR MATERIAL	COPPER
PROTECTIVE TREATMENT OF SWITCHGEAR	
SURFACE TREATMENT	AES STANDARD
GENERAL/EXTERNAL (PAINTED PARTS)	RAL 7035

TECHNICAL SPECIFICATION FOR RING MAIN UNIT		
RATED VOLTAGE	KV	12
SERVICE VOLTAGE	KV	11
RATED FREQUENCY	Hz	50
RATED CURRENT	A	630
RATED POWER FREQUENCY WITHSTAND VOLTAGE	KV	28
RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV (PEAK)	75
RATED SHORT TIME WITHSTAND CURRENT	KA/s	21/1
INTERNAL ARC CLASS(AC : A(FLR))	KA/s	21/1

POWER SUPPLY	
PROTECTION RELAY	V (SELF POWERED)
EARTH FAULT INDICATOR	V 100-240 AC
PANELS DIMENSION	
INDOOR	(HxDxW) mm
OUTDOOR	(HxDxW) mm 1435x953x1725
LABELING FOR IDENTIFICATION	
MATERIAL	TRAFFOLYTE
FIXATION	SCREWED
COLOR	BLACK TEXT IN WHITE BACKGROUND
WIRING	
TYPE	PVC
CONTROL	1.5 mm ²
CURRENT	2.5 mm ²

PROJECT NAME:

SFA 3 WAY
OUTDOOR RMU

PROJECT OWNER:

CONTRACTOR:

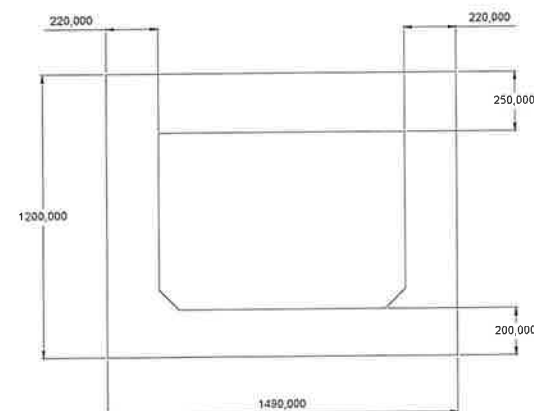
DRAWING TITLE:

SFA RMU SBS
SFA-RM (TE-SBS)/OUTDOOR
NON-MOTORIZED
17.5KV,630A,3-PHASE,60HZ,21KA/1SEC
(IRS-B)

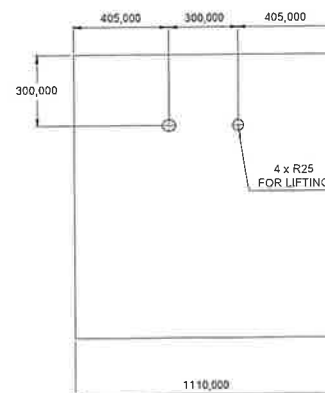
01	31.07.24	FOUNDATION DIM. UPDATED
00	04.10.22	FIRST ISSUE
IND	DATE	NATURE OF REVISION

alfanar Alfanar Industrial City,
P.O. Box No. 564,
Riyadh 11383,
Kingdom of Saudi Arabia.

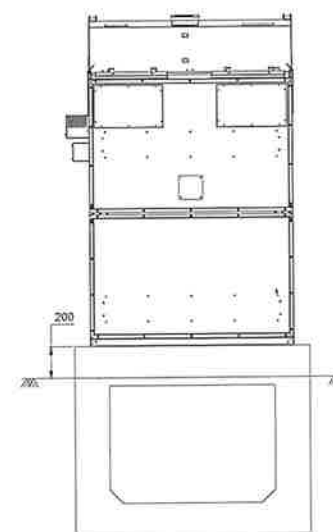
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DSN BY: B.K	CHK BY: A.P	APPR BY: A.P	SCALE: NTS	SHEET: 01
DWG NO: 1210714	REV NO: 00	NEXT: 02		



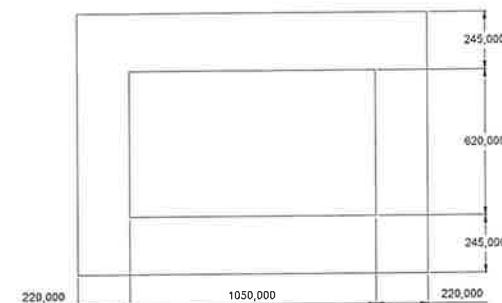
FRONT VIEW



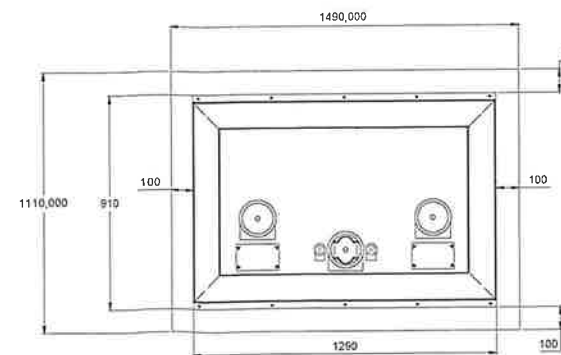
SIDE VIEW



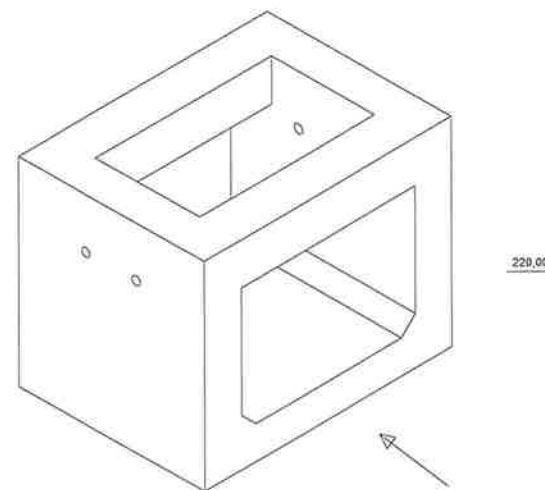
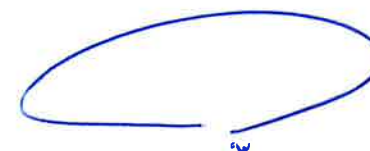
FRONT VIEW
WITH RMU



TOP VIEW



FOUNDATION PLAN
WITH RMU



FRONT

BILL OF MATERIALS

INCOMING-1

TAGNAME	SAP CODE	DESCRIPTION	MANUFACTURER	QTY
CVI1	1218618	CVI-LRM-LCD-ORION-OVI+ - 10NF	ORION	1
EFI	1132779	KRIES,EFI,IKI-10 LIGHT,WITH SPILT CORE	KRIES	1
X1,XY1	1144206	Phoenix Contact, UT 2,5 , 3044076	Phoenix Contact	11
Y1	--	SF6 GAS LOAD BREAK SWITCH 630A,17.5kV,21KA	SFA	1

OUTGOING-1

TAGNAME	SAP CODE	DESCRIPTION	MANUFACTURER	QTY
CVI2	1218619	CVI-LRM-LCD-ORION-OVI+ - 22NF	ORION	1
CT1,CT2,CT3	1212601	AT0.72kV;150-50/1;5P10;2.5VA	SHUBHADA	3
F1	1213594	OC RLY, ZIV, IRS-B1AA0121A00	ZIV	1
TC	1147330	TRIP COIL (LOW POWER),15MM,17VDC	I-POWER/FANOX/ZIV	1
YK1	1131099	I-POWER,SHORT LIMITSWITCH,LEG-RV162-1C25	I-POWER	1
XC	1132784	PHOENIX OTTA 6-T-P/P,CAT NO. 0790462	Phoenix Contact	14
XA,X5,X2,XQ	1144206	Phoenix Contact, UT 2,5 , 3044076	Phoenix Contact	17
A1	--	SFA, SF6 GAS DISCONNECTOR 630A,17.5KV,21KA,WITH 6 CONTACTS, SFA-DS1	SFA	1
Q1	--	VACUUM CIRCUIT BREAKER 630A,17.5KV,21KA	SFA	1
MOI	1196297	MANOMETER,CONTACTLESS (0.1)	SFA	1

INCOMING-2

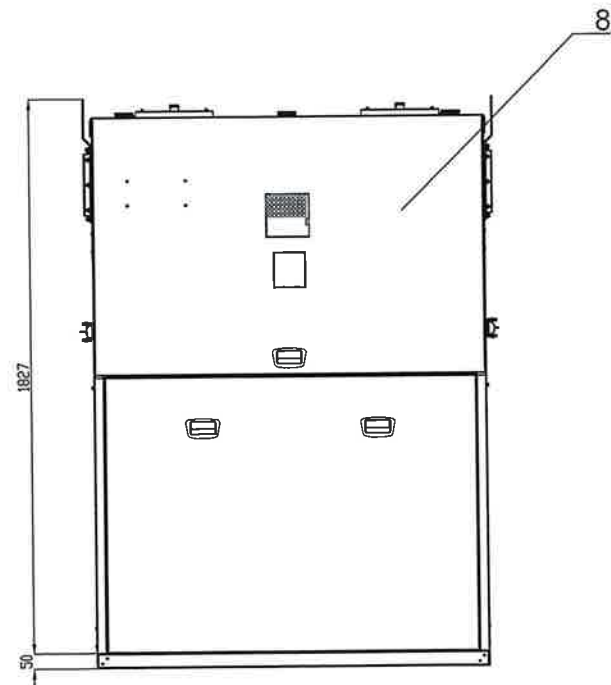
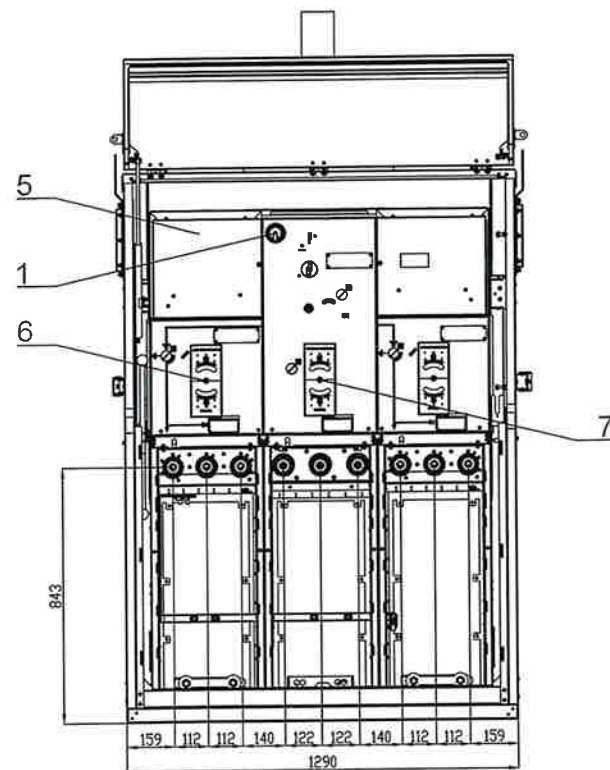
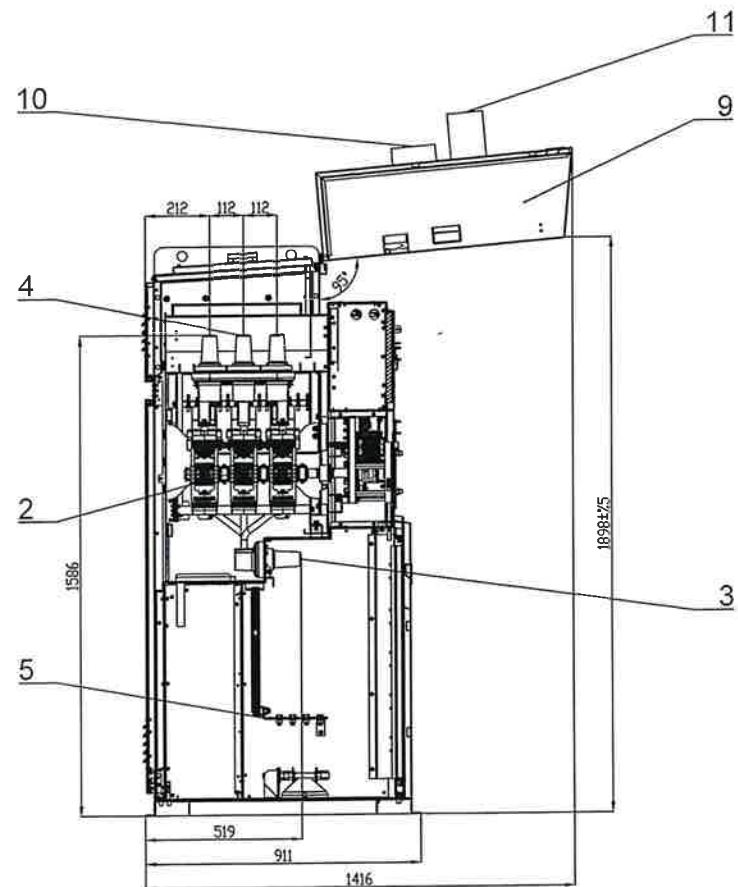
TAGNAME	SAP CODE	DESCRIPTION	MANUFACTURER	QTY
CVI3	1218618	CVI-LRM-LCD-ORION-OVI+ - 10NF	ORION	1
XY2	1144206	Phoenix Contact, UT 2,5 , 3044076	Phoenix Contact	6
Y2	--	SF6 GAS LOAD BREAK SWITCH 630A,17.5kV,21KA	SFA	1



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PROJECT NAME:		
SFA 3 WAY OUTDOOR RMU		
PROJECT OWNER:		
CONTRACTOR:		
DRAWING TITLE:		
SFA RMU SBS SFA-RM (TE-SBS)/OUTDOOR NON-MOTORIZED 17.5kv,630A,3-PHASE,60HZ,21KA/1SEC (IRS-B)		
00	04.10.22	FIRST ISSUE
IND	DATE	NATURE OF REVISION
 الفنار Alfanoor Industrial City, P.O. Box No. 564, Riyadh 11383, Kingdom of Saudi Arabia.		
MV FACTORY		WO.NO.:
DSN BY: B.K	CHK BY: A.P	APPR BY: A.P
DWG NO: 1210714		SCALE: NTS
REV NO: 00		SHEET: 02
NEXT: --		



NO	DESCRIPTIONS
1	Manometer
2	Tank
3	Cable Connection Bushings
4	Extension Bushings
5	Earthing Copper
6	LBS Mechanizm
7	CB Mechanizm
8	Outdoor Cabin
9	Outdoor Cabin Door
10	EFI
11	EFI Socket



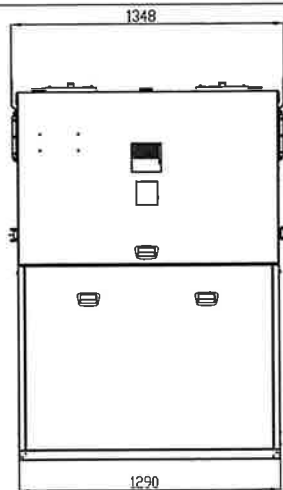
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SFA 3 WAY OUTDOOR RMU		
PROJECT OWNER:		
CONTRACTOR:		
DRAWING TITLE:		
SFA RMU SBS SFA-RM (TE-SBS)/OUTDOOR NON-MOTORIZED 17.5kV,630A,3-PHASE,60HZ,21KA/1SEC (IRS-B)		
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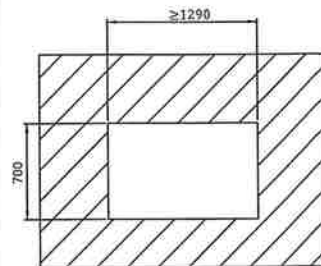
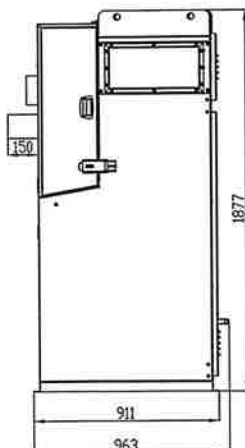
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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EARTH		CIRCUIT BREAKER		SOCKET (FOR EFI TEST)		LIMIT SWITCH
	TOROIDAL CURRENT TRANSFORMER		CAPACITIVE VOLTAGE INDICATOR		N/O CONTACT		PREMIUM SF6 / AIR MEDIUM VOLTAGE BUSHING
	DISCONNECTOR WITH EARTHING		COIL		N/C CONTACT		TERMINAL BLOCK
	LOAD BREAK SWITCH		CURRENT TRANSFORMER		EARTH FAULT INDICATOR		C/O CONTACT

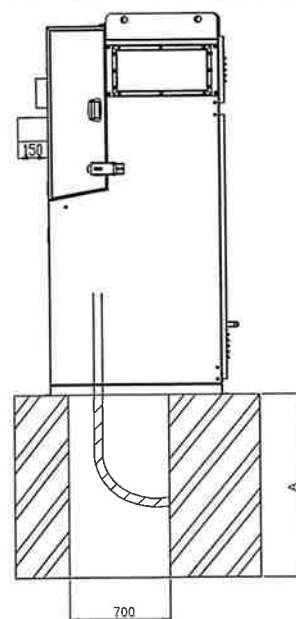
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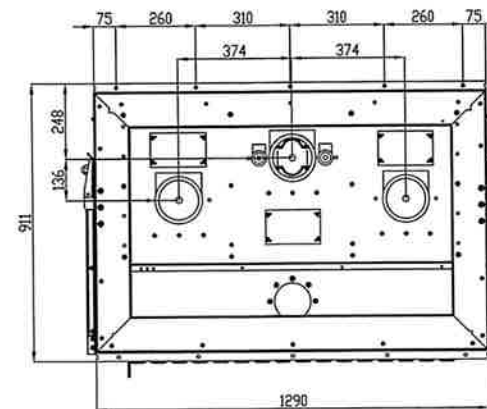
RMU FRONT AND SIDE VIEWS



FOUNDATION DETAILS



The recommended for dimension A for cable Al 500 mm² : 1200 mm for cable Cu mm² : mm



FOUNDATION CONNECTION DETAILS

GENERAL CHARACTERISTICS	
TYPE OF SWITCHGEAR	SFA-RM
MEAN ALTITUDE FROM SEA LEVEL	<=1000 METERS
AMBIENT TEMPERATURE	40°C (MAX.) -5°C (MIN.)
DEGREE OF PROTECTION	☐ INDOOR IP41 ☒ OUTDOOR IP 54
DIRECTION OF MAIN CABLES ENTRY	BOTTOM
BUSBAR MATERIAL	COPPER
PROTECTIVE TREATMENT OF SWITCHGEAR	
SURFACE TREATMENT	AES STANDARD
GENERAL/EXTERNAL (PAINTED PARTS)	RAL 7035

TECHNICAL SPECIFICATION FOR RING MAIN UNIT	
RATED VOLTAGE	KV 12
SERVICE VOLTAGE	KV 11
RATED FREQUENCY	Hz 50
RATED CURRENT	A 630
RATED POWER FREQUENCY WITHSTAND VOLTAGE	KV 28
RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE	KV (PEAK) 75
RATED SHORT TIME WITHSTAND CURRENT	KA/s 21/1
INTERNAL ARC CLASS(AC : A(FLR))	KA/s 21/1

POWER SUPPLY	
PROTECTION RELAY	V (SELF POWERED)
EARTH FAULT INDICATOR	V 100-240 AC
PANELS DIMENSION	
INDOOR (HxDxW) mm	---
OUTDOOR (HxDxW) mm	1435x953x1725
LABELING FOR IDENTIFICATION	
MATERIAL	TRAFFOLYTE
FIXATION	SCREWED
COLOR	BLACK TEXT IN WHITE BACKGROUND
WIRING	
TYPE	PVC
CONTROL	1.5 mm ²
CURRENT	2.5 mm ²



PROJECT NAME:

SFA 3 WAY
OUTDOOR RMU

PROJECT OWNER:

CONTRACTOR:

DRAWING TITLE:

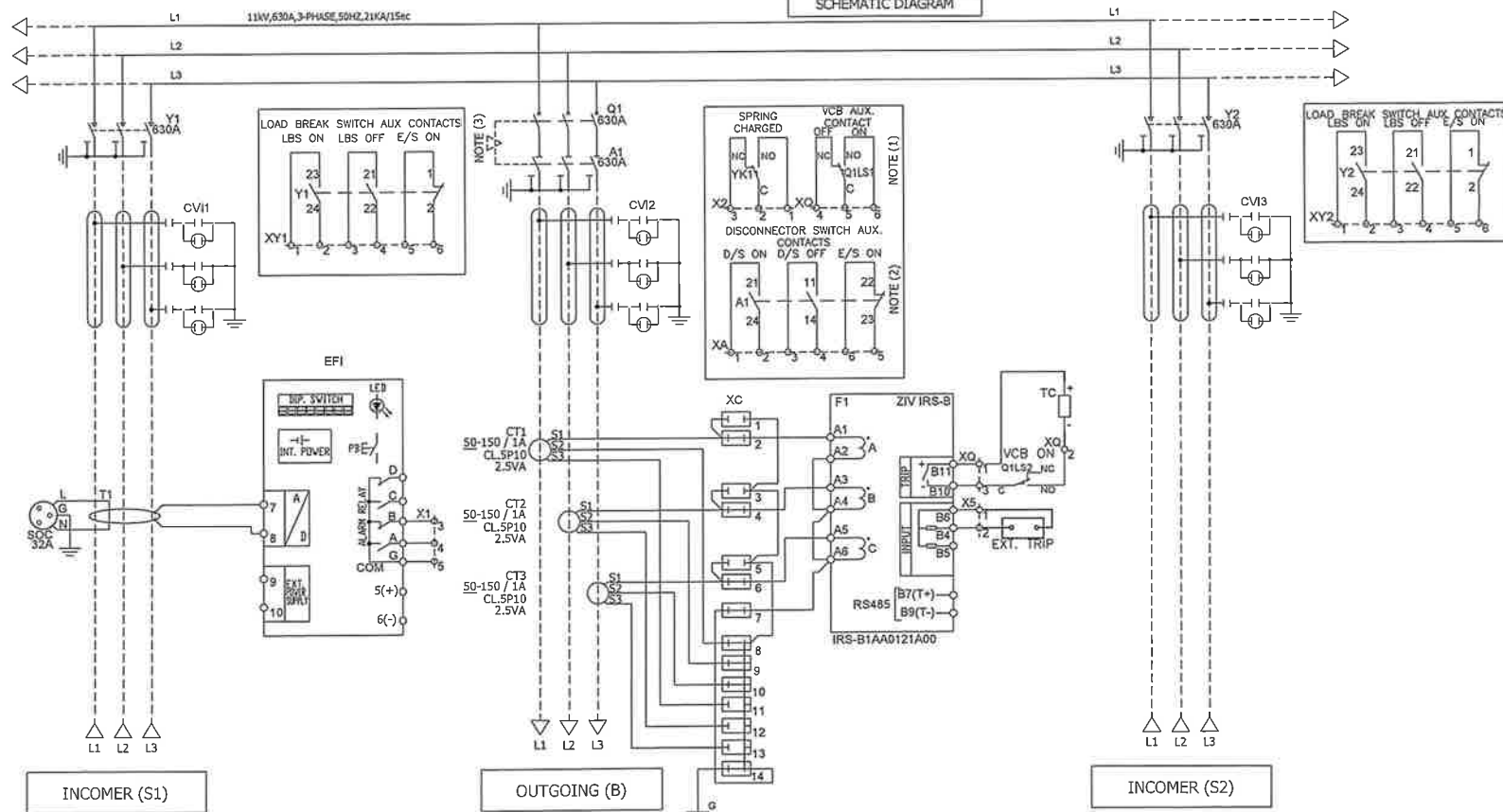
SFA RMU SBS
SFA-RM (TE-SBS)/OUTDOOR
NON-MOTORIZED
17.5kV,630A,3-PHASE,60HZ,21KA/1SEC
(IRS-B)

00	04.10.22	FIRST ISSUE
IND	DATE	NATURE OF REVISION

الفنار
alfanar
Alfanar Industrial City,
P.O. Box No. 564,
Riyadh 11383,
Kingdom of Saudi Arabia.

DSN BY:	CHK BY:	APPR BY:	SCALE:	SHEET:
B.K	A.P	A.P	NTS	01
DWG NO:	1210714	REV NO:	00	NEXT:
				02

SCHEMATIC DIAGRAM



NOTE:
1A. THE NORMAL STATUS OF VCB AUXILIARY CONTACTS WHEN IT IS OFF.
1B. THE NORMAL STATUS OF LBS & EARTH SWITCH AUXILIARY CONTACTS WHEN LBS IS OFF & ES IS ON.
2. THE NORMAL STATUS OF DS & ES AUXILIARY CONTACTS WHEN DS IS OFF & ES IS ON.
3. MECHANICAL INTERLOCK BETWEEN VCB AND DISCONNECTOR.
4. YOU SHOULD NOT CLOSE OR OPEN THE LOAD BREAK SWITCH OR DISCONNECTOR SWITCH IF SF6 GAS DEVICE IS BELOW MINIMUM LEVEL.
5. BEFORE ENERGIZING TERMINAL LINK (XC-1,3,5) SHOULD BE OPEN.

OUTGOING-B CT RATIO SELECTION AT SECONDARY	
CT REF	SLIDE LINK SELECTION
CT1,CT2,CT3	CLOSE LINK (UP) XC-1,3,5,7,9,11,13,15 OPEN LINK (UP) XC-1,3,5,7,9,11,13,15
CT SHOOTING	CLOSE LINK (UP) XC-1,3,5 CLOSE LINK (UP) XC-1,3,5
CT ISOLATION NOTE: SHORT BEFORE ISOLATE	OPEN LINK (DOWN) XC-2,4,6 OPEN LINK (DOWN) XC-2,4,6

F1 IRS-B PROTECTION RELAY	EF1 EARTH FAULT INDICATOR	X1 EFI CIRCUIT TERMINAL BLOCK	X0 VCB CIRCUIT TERMINAL BLOCK	X2 LOAD BREAK SW TERMINAL BLOCK
X5 RELAY OUTPUT TERMINAL BLOCK	XC CT CIRCUIT TERMINAL BLOCK	X30G REMOTE CLOSE TRIPPING C.T. TERMINAL BLOCK	X3A DISCONNECTOR TERMINAL BLOCK	X3B0G REMOTE CLOSE TRIPPING C.T. TERMINAL BLOCK
PUSH-BUTTON AND LED LABELS EXAMPLE WHITE LABELS BLACK TEXTS		TERMINAL DESCRIPTION LABELS EXAMPLE 27X15 WHITE STICKY LABELS BLACK TEXTS		

