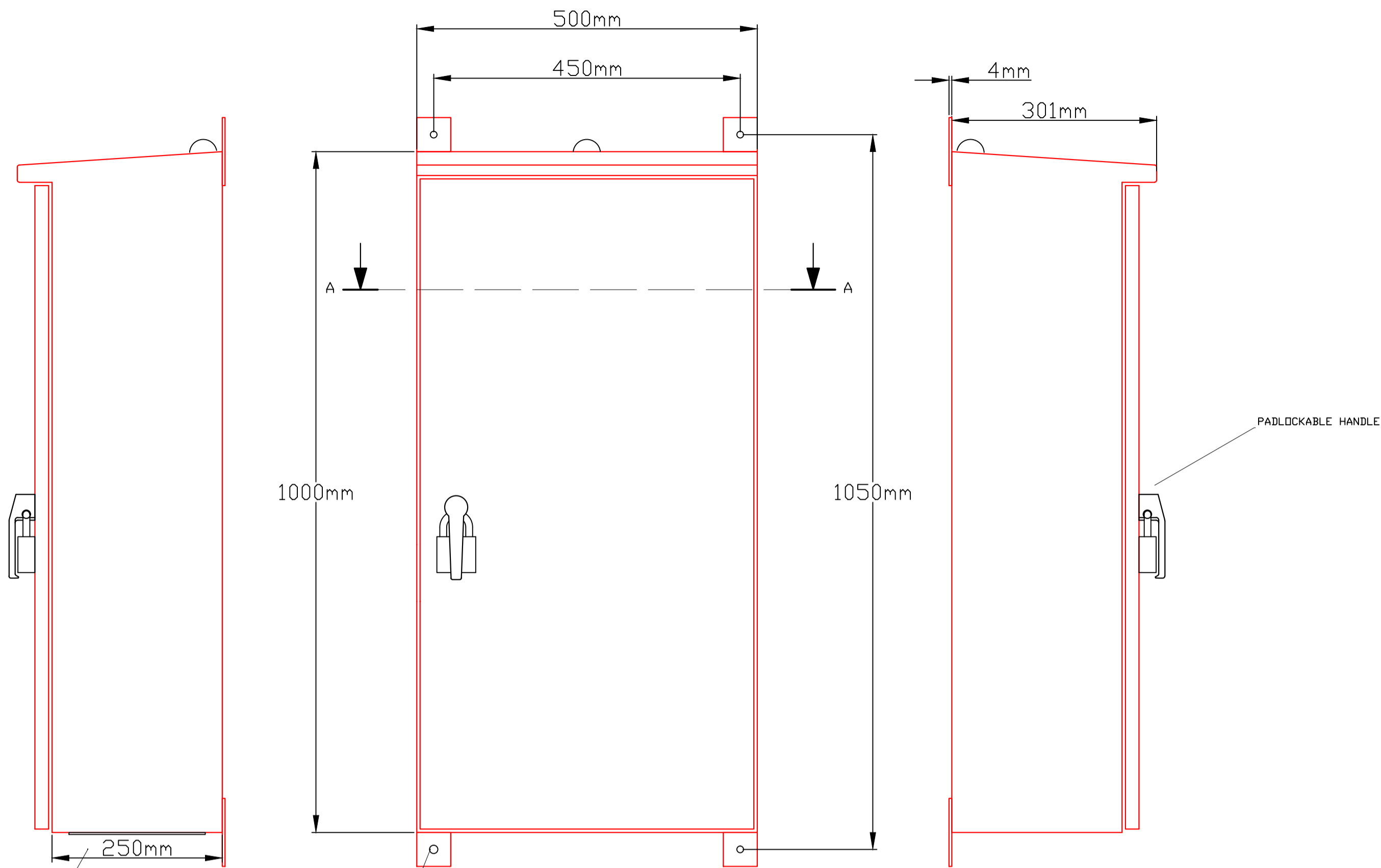


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C	EX WORKS	22.08.12	N.E.W.	
B	WIRE NUMBERS ADDED	03.08.12	N.E.W.	
A	UPDATED INFORMATION	21.05.12	N.E.W.	
RevNo	Revision note	Date	Signed	Checked
Filename	1220_S1_1.dwg		Plot Date & Time	14/09/2012
Date	20.03.12	Approved by - date		
Drawn by	N.E.W.	Checked by	Scale	NA
Customer			Job No.	
Customer Ref			Site	
<b>FUNDAMENTALS</b> Tel: +44 (0)1844 213336 Fax: +44 (0)5600 758035 Web: www.fundamentalsltd.co.uk 4 Goodsons Mews, Wellington Street, Thame, Oxfordshire OX9 3BX		DISTRIBUTION TRANSFORMER CONTROL USING TAPCON 230 VOLTAGE CONTROL CIRCUIT 1220 S1 1		
REV	C	Sheet	1	of 3

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A B C D E F G H I J K L M N O P



GLAND PLATE FOR ALL INCOMING / OUTGOING CABLES

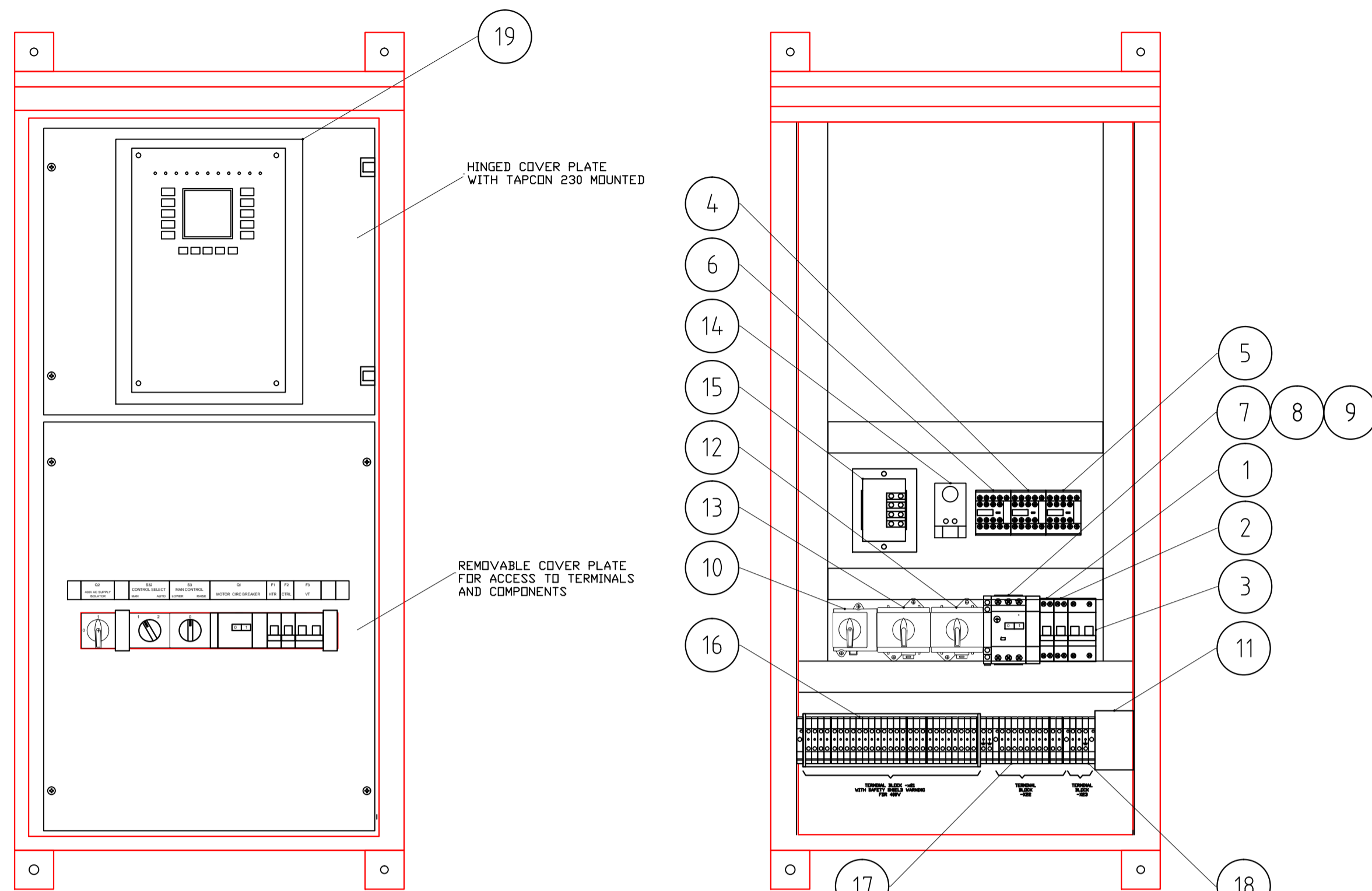
SIDE VIEW

4 X FIXING LUGS WITH 12MM FIXING HOLES

FRONT VIEW

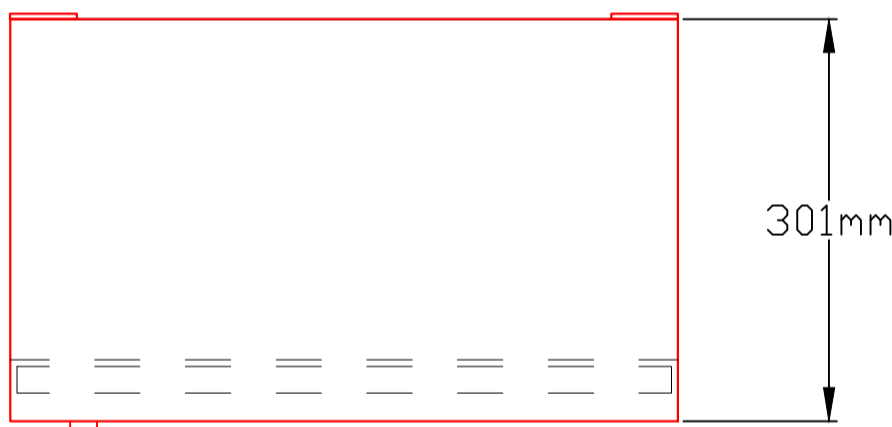
SIDE VIEW

PADLOCKABLE HANDLE

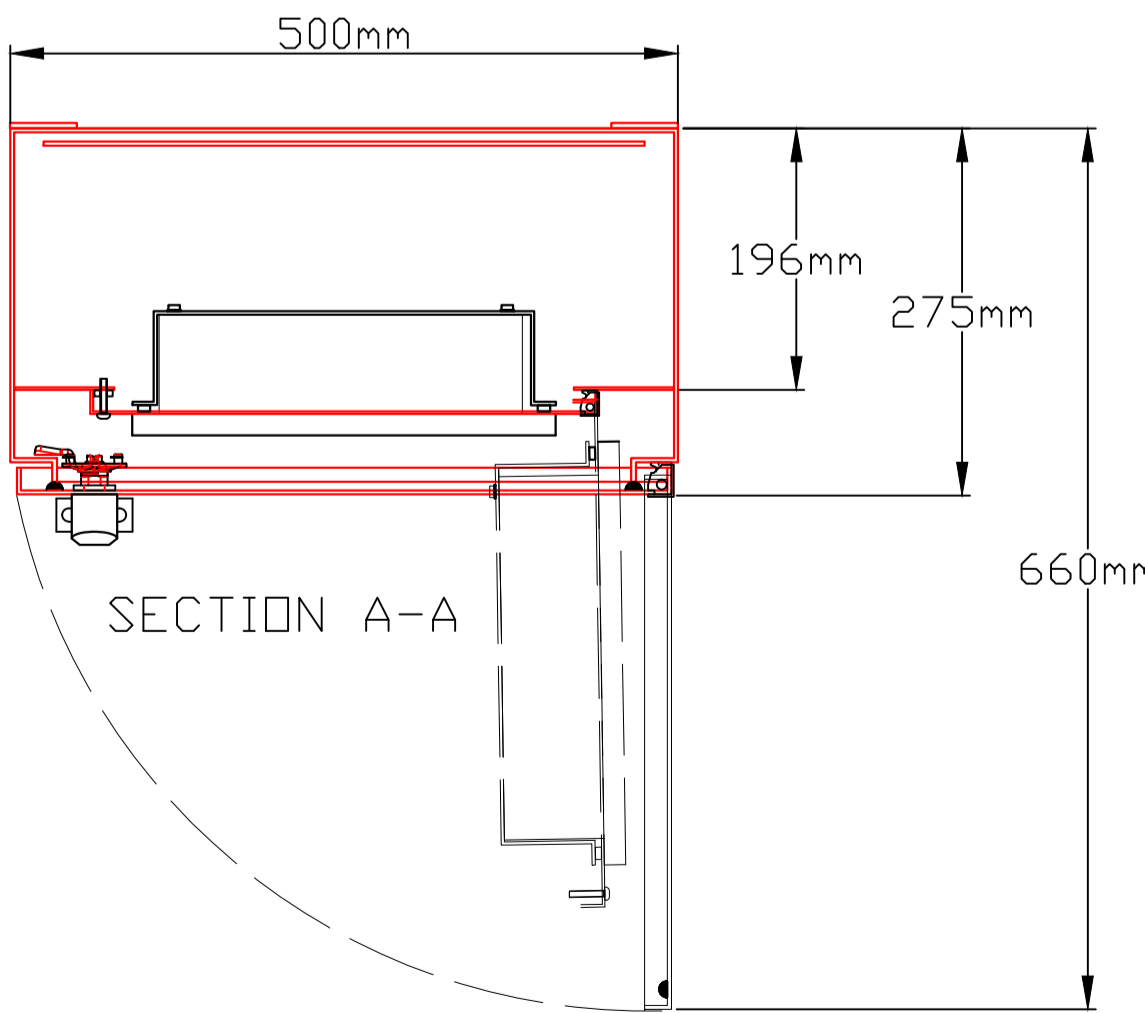


FRONT VIEW WITH OUTER DOOR REMOVED

FRONT VIEW WITH TAPCON 230 AND INNER COVER PLATES REMOVED



TOP VIEW



SECTION A-A

**COMMON COMPONENTS**

TAG	REF	DESC1	MFG	CAT
1	F1	HEATER SUPPLY CIRCUIT BREAKER	ABB	SN201M-C2
2	F2	CONTROL CIRCUIT CIRCUIT BREAKER	ABB	SN201M-C2
3	F3	VT SUPPLY CIRCUIT BREAKER	ABB	S202M-C1
4	K1	RAISE CONTACTOR	SIEMENS	3RT101
5	K2	LOWER CONTACTOR	SIEMENS	3RT101
6	K20	STEPPING RELAY	SIEMENS	CAD32
7	Q1	MOTOR PROTECTION RELAY	SIEMENS	3RV1011
8	Q1	SHUNT TRIP	SIEMENS	3RV1902
9	Q1	AUC CONTACT BLOCK	SIEMENS	3RV1901
10	Q2	SUPPLY ISOLATOR	KRAUS & NAIMER	KG32A-T034/58 VE2
11	R1	CUBICLE ANTI-SWEAT HEATER	LM Therm	23010AL
12	S3	RAISE / LOWER SWITCH	KRAUS & NAIMER	CG8 D-703P*03VE21V
13	S32	MAN / AUTO SWITCH	KRAUS & NAIMER	CG8 D-704P*03VE21V
14	S1	HEATER THERMOSTAT	PFANNENBERG	FLZ520
15	VTT	VT TRANSFORMER 400/100 50VA	TECHNO TRANSF	400/100/50VA
16	X21	MAINS VOLTAGE FIELD WIRING TERMINALS	WEIDMULLER	WDU6
17	X22	"VOLT FREE" ALARM / STATUS TERMINALS	WEIDMULLER	WDU6
18	X23	ANTI SWEAT HTR CONNECTION TERMINALS	WEIDMULLER	WDU6
19	VCR	VOLTAGE CONTROL RELAY	MR	TAPCON 230 EXPERT

C	EX WORKS	29.08.12	N.E.W.
B	WIDTH & DEPTH OF ENCL INCREASED. PADLOCK ARRANGEMENT CHANGED	12.06.12	N.E.W.
A	MINDR CHANGES	21.05.12	N.E.W.

RevNo	Revision note	Date	Signed	Checked
20.03.12	Approved by - date	14/09/2012		
Drawn by	Checked by	Scale		
N.E.W.		NA		
Customer		Job No.		

Customer Ref: Site: **FUNDAMENTALS**  
 Tel: +44 (0)1844 213336  
 Fax: +44 (0)5600 758035  
 Web: www.fundamentalsltd.co.uk  
 4 Goodsons Mews, Wellington Street, Thame, Oxfordshire OX9 3BX

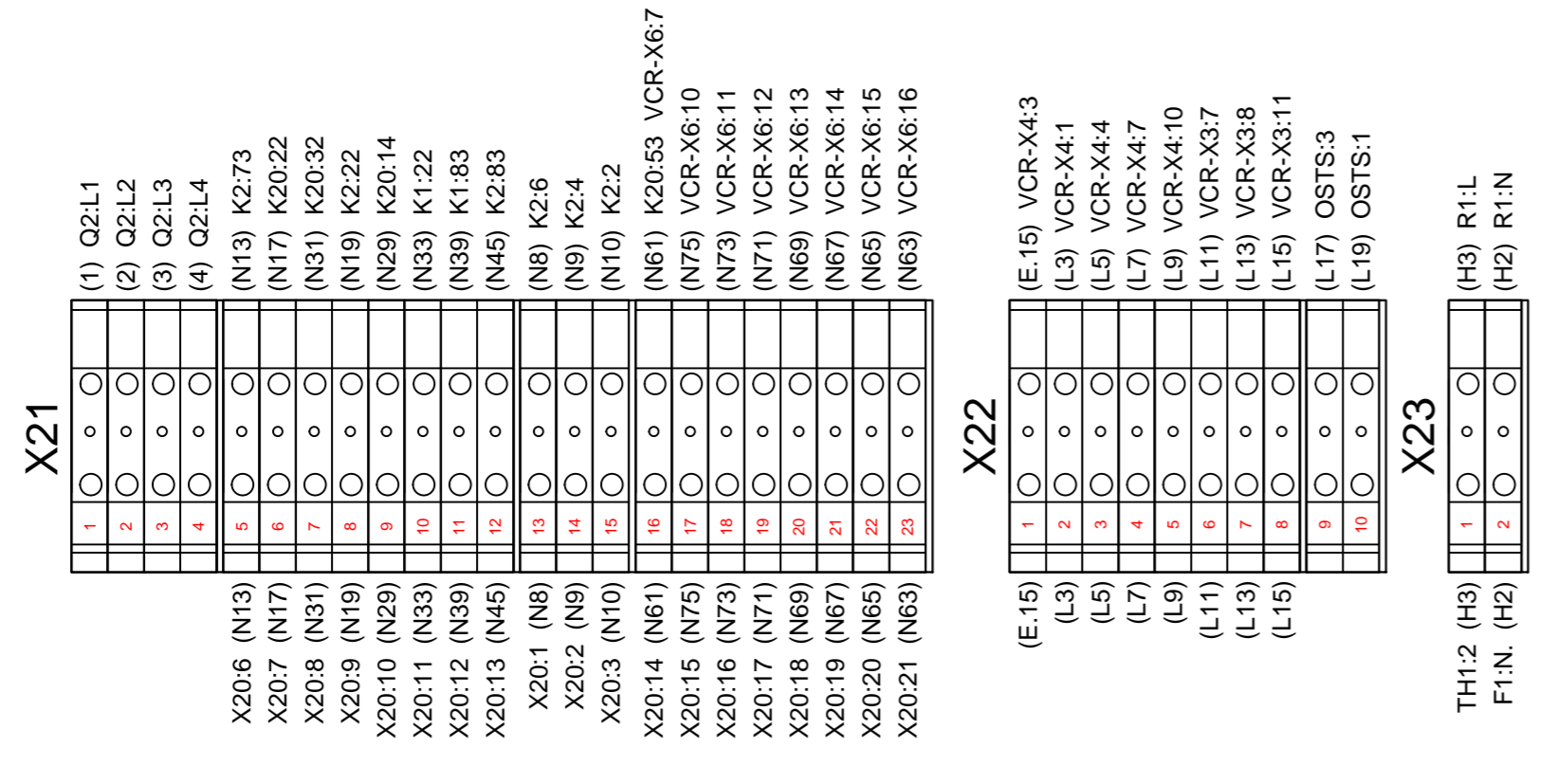
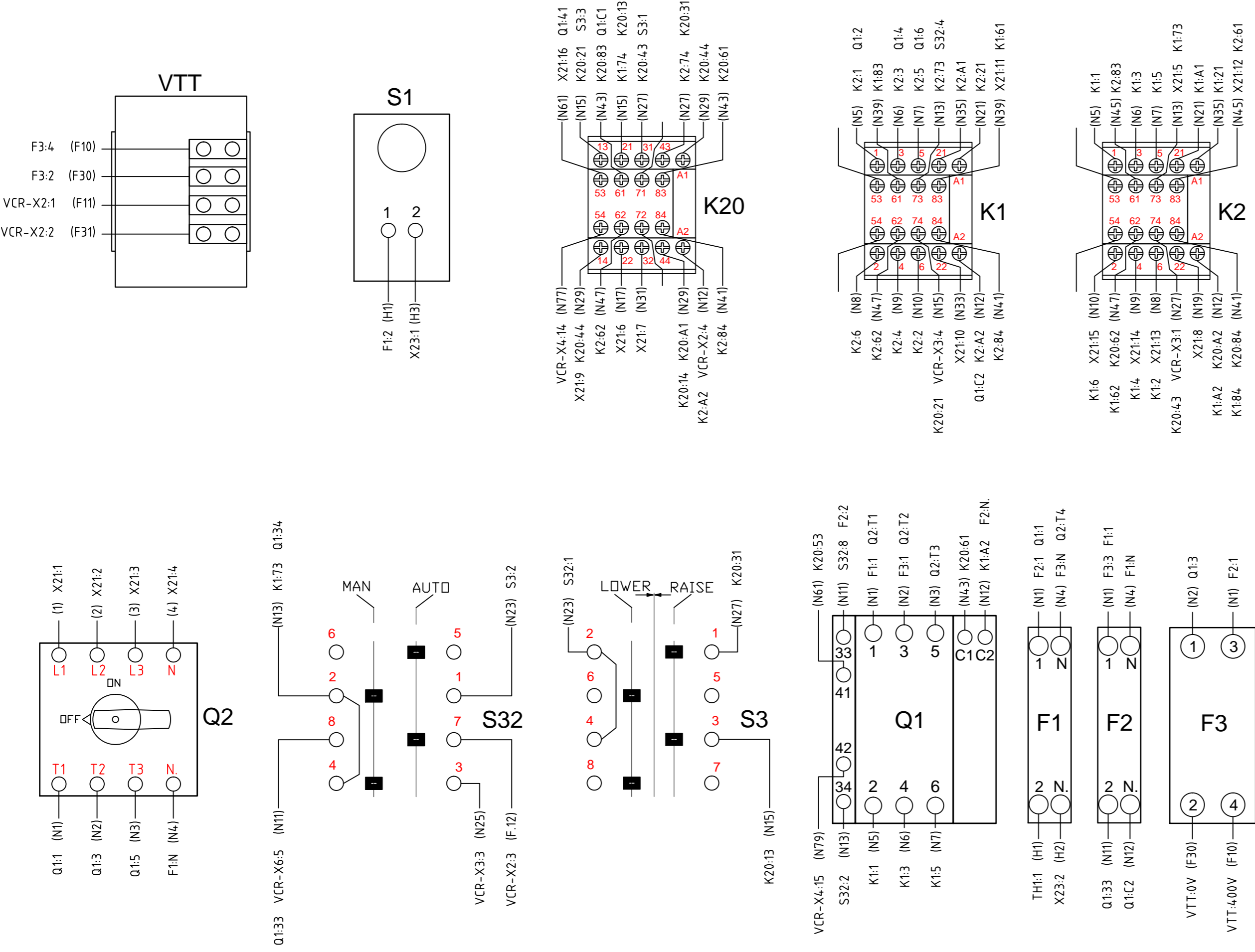
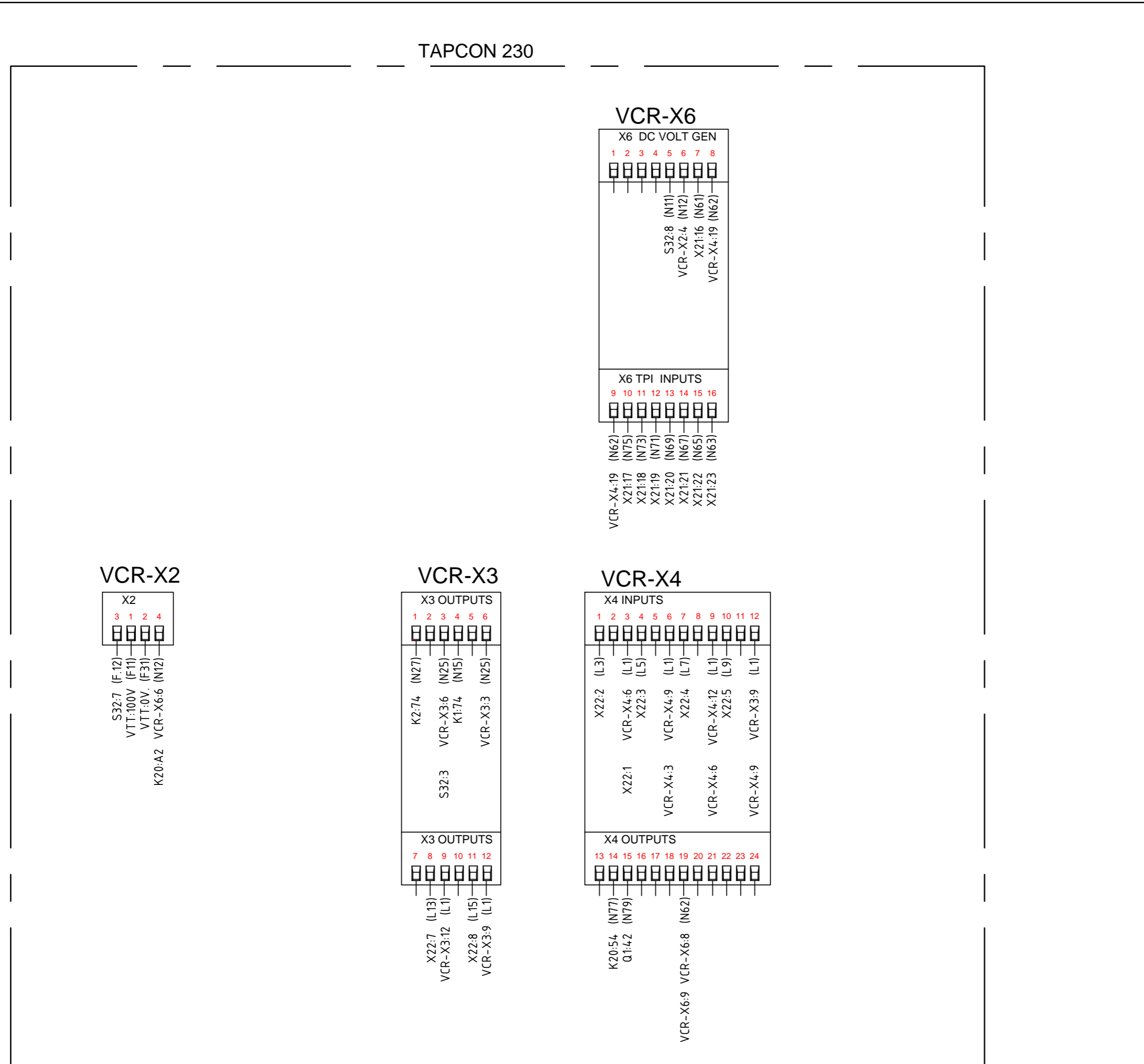
DISTRIBUTION TRANSFORMER CONTROL USING TAPCON 230 GENERAL LAYOUT  
 1220 M0 1 REV 3 of 3

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A B C D E F G H I J K L M N O P



TAPCON 230



SEQUENCE OF CONNECTIONS FOR PANEL							
WIRENO	WLAY1	CMP1	PIN1	CMP2	PIN2	SH1	REF1
F.12	Wire_1.5_BK_Ctrl	VCR-X2	3	S32	7	1	M.12
F10	Wire_1.5_BK_VT	F3	4	VTT	400V	1	C.12
F11	Wire_1.5_BK_VT	VCR-X2	1	VTT	100V	1	M.12
F30	Wire_1.5_BK_VT	F3	2	VTT	0V	1	C.13
F31	Wire_1.5_BK_VT	VCR-X2	2	VTT	OV.	1	M.13
H1	Wire_1.5_BK_Power	F1	2	S1	1	1	C.3
H2	Wire_1.5_BK_Power	F1	N.	X23	2	1	C.3
H2	Wire_1.5_BK_Power	R1	N	X23	2	1	E.3
H3	Wire_1.5_BK_Power	S1	2	X23	1	1	D.3
H3	Wire_1.5_BK_Power	R1	L	X23	1	1	D.3
L1	Wire_1.5_GY_Alarm	X22	1	VCR-X4	3	1	H.13
L1	Wire_1.5_GY_Alarm	VCR-X4	3	VCR-X4	6	1	F.14
L1	Wire_1.5_GY_Alarm	VCR-X4	6	VCR-X4	9	1	F.14
L1	Wire_1.5_GY_Alarm	VCR-X4	9	VCR-X4	12	1	F.14
L1	Wire_1.5_GY_Alarm	VCR-X4	12	VCR-X3	9	1	F.15
L1	Wire_1.5_GY_Alarm	VCR-X3	9	VCR-X3	12	1	F.15
L11	Wire_1.5_GY_Alarm	VCR-X3	7	X22	6	1	F.15
L13	Wire_1.5_GY_Alarm	VCR-X3	8	X22	7	1	F.15
L15	Wire_1.5_GY_Alarm	VCR-X3	11	X22	8	1	F.16
L3	Wire_1.5_GY_Alarm	VCR-X4	1	X22	2	1	F.13
L5	Wire_1.5_GY_Alarm	VCR-X4	4	X22	3	1	F.14
L7	Wire_1.5_GY_Alarm	VCR-X4	7	X22	4	1	F.14
L9	Wire_1.5_GY_Alarm	VCR-X4	10	X22	5	1	F.15
N1	Wire_2.5_BK_Power	Q2	T1	Q1	1	1	A.2
N1	Wire_2.5_BK_Power	Q1	1	F1	1	1	B.2
N1	Wire_2.5_BK_Power	F1	1	F2	1	1	B.3
N1	Wire_2.5_BK_Power	F2	1	F3	3	1	B.4
N10	Wire_1.5_BK_Power	K1	6	K2	2	1	D.2
N10	Wire_1.5_BK_Power	K2	2	X21	15	1	D.3
N11	Wire_1.5_BK_Ctrl	F2	2	Q1	33	1	C.4
N11	Wire_1.5_BK_Ctrl	Q1	33	S32	8	1	D.4
N11	Wire_1.5_BK_Ctrl	S32	8	VCR-X6	5	1	F.12
N12	Wire_1.5_BK_Ctrl	F2	N.	Q1	C2	1	C.4
N12	Wire_1.5_BK_Ctrl	Q1	C2	K1	A2	1	M.7
N12	Wire_1.5_BK_Ctrl	K1	A2	K2	A2	1	M.4
N12	Wire_1.5_BK_Ctrl	K2	A2	K20	A2	1	M.6
N12	Wire_1.5_BK_Ctrl	K20	A2	VCR-X2	4	1	M.5
N12	Wire_1.5_BK_Ctrl	VCR-X2	4	VCR-X6	6	1	M.12
N13	Wire_1.5_BK_Ctrl	Q1	34	S32	2	1	D.4
N13	Wire_1.5_BK_Ctrl	S32	2	K1	73	1	E.5
N13	Wire_1.5_BK_Ctrl	K1	73	K2	73	1	F.4
N13	Wire_1.5_BK_Ctrl	K2	73	X21	5	1	F.6
N13	Wire_1.5_BK_Ctrl	S1	NO	S2	NO	1	J.7
N15	Wire_1.5_BK_Ctrl	S3	3	K20	13	1	G.5
N15	Wire_1.5_BK_Ctrl	K20	13	K20	21	1	G.5
N15	Wire_1.5_BK_Ctrl	K20	21	K1	74	1	G.4
N15	Wire_1.5_BK_Ctrl	K1	74	VCR-X3	4	1	F.4
N17	Wire_1.5_BK_Ctrl	K20	22	X21	6	1	H.4
N19	Wire_1.5_BK_Ctrl	K2	22	X21	8	1	L.4
N2	Wire_2.5_BK_Power	Q2	T2	Q1	3	1	B.2
N2	Wire_2.5_BK_Power	Q1	3	F3	1	1	B.2
N21	Wire_1.5_BK_Ctrl	K1	A1	K2	21	1	L.4
N23	Wire_1.5_BK_Ctrl	S32	1	S3	2	1	E.5
N25	Wire_1.5_BK_Ctrl	S32	3	VCR-X3	6	1	E.5
N25	Wire_1.5_BK_Ctrl	VCR-X3	6	VCR-X3	3	1	F.5
N27	Wire_1.5_BK_Ctrl	S3	1	K20	31	1	G.5
N27	Wire_1.5_BK_Ctrl	K20	31	K20	43	1	G.6
N27	Wire_1.5_BK_Ctrl	K20	43	K2	74	1	G.6
N27	Wire_1.5_BK_Ctrl	K2	74	VCR-X3	1	1	F.6
N29	Wire_1.5_BK_Ctrl	X21	9	K20	14	1	K.5
N29	Wire_1.5_BK_Ctrl	K20	14	K20	44	1	H.5
N29	Wire_1.5_BK_Ctrl	K20	44	K20	A1	1	H.6
N3	Wire_2.5_BK_Power	Q2	T3	Q1	5	1	B.2
N31	Wire_1.5_BK_Ctrl	K20	32	X21	7	1	H.6
N33	Wire_1.5_BK_Ctrl	K1	22	X21	10	1	L.6
N35	Wire_1.5_BK_Ctrl	K1	21	K2	A1	1	L.6
N37	Wire_1.5_BK_Ctrl	S1	C	S2	C	1	I.7
N39	Wire_1.5_BK_Ctrl	K1	61	K1	83	1	K.7
N39	Wire_1.5_BK_Ctrl	K1	83	X21	11	1	K.7
N4	Wire_2.5_BK_Power	Q2	N.	F1	N	1	B.3
N4	Wire_2.5_BK_Power	F1	N	F2	N	1	B.3
N41	Wire_1.5_BK_Ctrl	K1	84	K2	84	1	K.7
N41	Wire_1.5_BK_Ctrl	K2	84	K20	84	1	K.8
N43	Wire_1.5_BK_Ctrl	Q1	C1	K20	61	1	L.7
N43	Wire_1.5_BK_Ctrl	K20	61	K20	83	1	L.8
N45	Wire_1.5_BK_Ctrl	K2	61	K2	83	1	K.8
N45	Wire_1.5_BK_Ctrl	K2	83	X21	12	1	K.8
N47	Wire_1.5_BK_Ctrl	K1	62	K2	62	1	K.7
N47	Wire_1.5_BK_Ctrl	K2	62	K20	62	1	K.8
N5	Wire_1.5_BK_Power	Q1	2	K1	1	1	C.2
N5	Wire_1.5_BK_Power	K1	1	K2	1	1	D.2
N6	Wire_1.5_BK_Power	Q1	4	K1	3	1	C.2
N6	Wire_1.5_BK_Power	K1	3	K2	3	1	D.2
N61	Wire_1.5_BK_Ctrl	Q1	41	K20	53	1	F.11
N61	Wire_1.5_BK_Ctrl	K20	53	X21	16	1	F.11
N61	Wire_1.5_BK_Ctrl	X21	16	VCR-X6	7	1	K.9
N62	Wire_1.5_BK_Ctrl	VCR-X6	9	VCR-X4	19	1	M.9
N62	Wire_1.5_BK_Ctrl	VCR-X4	19	VCR-X6	8	1	M.12
N63	Wire_1.5_BK_Ctrl	VCR-X6	16	X21	23	1	M.8
N65	Wire_1.5_BK_Ctrl	VCR-X6	15	X21	22	1	M.8
N67	Wire_1.5_BK_Ctrl	VCR-X6	14	X21	21	1	M.9
N69	Wire_1.5_BK_Ctrl	VCR-X6	13	X21	20	1	M.9
N7	Wire_1.5_BK_Power	Q1	6	K1	5	1	C.2
N7	Wire_1.5_BK_Power	K1	5	K2	5	1	D.2
N71	Wire_1.5_BK_Ctrl	VCR-X6	12	X21	19	1	M.9
N73	Wire_1.5_BK_Ctrl	VCR-X6	11	X21	18	1	M.9
N75	Wire_1.5_BK_Ctrl	VCR-X6	10	X21	17	1	M.9
N77	Wire_1.5_BK_Ctrl	VCR-X4	14	K20	54	1	M.11
N79	Wire_1.5_BK_Ctrl	VCR-X4	15	Q1	42	1	M.11
N8	Wire_1.5_BK_Power	K1	2	K2	6	1	D.2
N8	Wire_1.5_BK_Power	K2	6	X21	13	1	D.3
N9	Wire_1.5_BK_Power	K1	4	K2	4	1	D.2
N9	Wire_1.5_BK_Power	K2	4	X21	14	1	D.3
1	Wire_2.5_BK_Power	X21	1	Q2	L1	1	A.1
2	Wire_2.5_BK_Power	X21	2	Q2	L2	1	B.1
3	Wire_2.5_BK_Power	X21	3	Q2	L3	1	B.1
4	Wire_2.5_BK_Power	X21	4	Q2	N	1	B.1

A	EX WRKRS	29.08.12	N.E.W.		
RevNo	Revision note	Date	Signed	Checked	
20.03.12	1220-W0-1dwg	14/09/2012			
FileNo	Approved by - date	Plot Date & Time			
20.03.12		14/09/2012			
Drawn by	Checked by	Scale			
N.E.W.		NA			
Customer	Job No.				
Customer Ref	Site				
<b>FUNDAMENTALS</b> Tel: +44 (0)1844 213336 Fax: +44 (0)5600 750035 Web: www.fundamentals.co.uk 4 Goodsons Mews, Wellington Street, Thame, Oxfordshire OX9 3BX					
DISTRIBUTION TRANSFORMER CONTROL USING TAPCON 230 WIRING DIAGRAM					
1220 W0 1				REV A	Sheet 2 of 3