




6		5		4		3		2		1																																																																																																																																																											
<div>DWG NAME INDEX</div>																																																																																																																																																																					
<table><tr><td>NO</td><td>TITLE NAME</td><td>SHEET NO.</td><td>CODE</td><td>REM.</td></tr><tr><td>1</td><td>TITLE</td><td>00</td><td></td><td></td></tr><tr><td>2</td><td>DWG NAME INDEX</td><td>01</td><td></td><td></td></tr><tr><td>3</td><td>SPECIFICATION</td><td>02 ~ 03</td><td></td><td></td></tr><tr><td>4</td><td>SOFT STARTER &amp; RELAY COORDINATION</td><td>04</td><td></td><td></td></tr><tr><td>5</td><td>OUT LINE DIAGRAM</td><td>05</td><td></td><td></td></tr><tr><td>6</td><td>BLANK PAGE</td><td>06</td><td></td><td></td></tr><tr><td>7</td><td>THREE LINE DIAGRAM</td><td>07</td><td></td><td></td></tr><tr><td>8</td><td>CONTROL POWER DIAGRAM</td><td>08</td><td></td><td></td></tr><tr><td>9</td><td>SEQUENCE DIAGRAM</td><td>09 ~ 11</td><td></td><td></td></tr><tr><td>10</td><td>TERMINAL BLOCK DIAGRAM</td><td>12</td><td></td><td></td></tr><tr><td>11</td><td>PART LIST</td><td>13</td><td></td><td></td></tr><tr><td>12</td><td></td><td></td><td></td><td></td></tr><tr><td>13</td><td></td><td></td><td></td><td></td></tr><tr><td>14</td><td></td><td></td><td></td><td></td></tr><tr><td>15</td><td></td><td></td><td></td><td></td></tr><tr><td>16</td><td></td><td></td><td></td><td></td></tr><tr><td>17</td><td></td><td></td><td></td><td></td></tr><tr><td>18</td><td></td><td></td><td></td><td></td></tr><tr><td>19</td><td></td><td></td><td></td><td></td></tr><tr><td>20</td><td></td><td></td><td></td><td></td></tr></table>												NO	TITLE NAME	SHEET NO.	CODE	REM.	1	TITLE	00			2	DWG NAME INDEX	01			3	SPECIFICATION	02 ~ 03			4	SOFT STARTER & RELAY COORDINATION	04			5	OUT LINE DIAGRAM	05			6	BLANK PAGE	06			7	THREE LINE DIAGRAM	07			8	CONTROL POWER DIAGRAM	08			9	SEQUENCE DIAGRAM	09 ~ 11			10	TERMINAL BLOCK DIAGRAM	12			11	PART LIST	13			12					13					14					15					16					17					18					19					20																																																					
NO	TITLE NAME	SHEET NO.	CODE	REM.																																																																																																																																																																	
1	TITLE	00																																																																																																																																																																			
2	DWG NAME INDEX	01																																																																																																																																																																			
3	SPECIFICATION	02 ~ 03																																																																																																																																																																			
4	SOFT STARTER & RELAY COORDINATION	04																																																																																																																																																																			
5	OUT LINE DIAGRAM	05																																																																																																																																																																			
6	BLANK PAGE	06																																																																																																																																																																			
7	THREE LINE DIAGRAM	07																																																																																																																																																																			
8	CONTROL POWER DIAGRAM	08																																																																																																																																																																			
9	SEQUENCE DIAGRAM	09 ~ 11																																																																																																																																																																			
10	TERMINAL BLOCK DIAGRAM	12																																																																																																																																																																			
11	PART LIST	13																																																																																																																																																																			
12																																																																																																																																																																					
13																																																																																																																																																																					
14																																																																																																																																																																					
15																																																																																																																																																																					
16																																																																																																																																																																					
17																																																																																																																																																																					
18																																																																																																																																																																					
19																																																																																																																																																																					
20																																																																																																																																																																					
<table><tr><td colspan="2">A</td><td colspan="2">D</td><td colspan="2">C</td><td colspan="2">B</td><td colspan="2">A</td></tr><tr><td colspan="2">REV.</td><td colspan="2">DATE</td><td colspan="2">DESCRIPTION of REVISION</td><td colspan="2">CUSTOMER</td><td colspan="2">SMART(BR)</td><td colspan="2">APPROVED</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2" rowspan="4"></td><td colspan="2">J.S.PARK</td><td colspan="2">DATE 2017. 09</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">J.H.KIM</td><td colspan="2">DATE 2017. 09</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">S.B.CHOI</td><td colspan="2">DATE 2017. 09</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2">S.B.CHOI</td><td colspan="2">DATE 2017. 09</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">SUPPLIER</td><td colspan="2">DWG. NAME</td><td colspan="2">DWG. NAME INDEX</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">DWG. NO.</td><td colspan="2">EP08-002672A</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">PROJECT</td><td colspan="2">SMART(BR)</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">UNIT</td><td colspan="2">mm</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">REV. NO.</td><td colspan="2">0</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">SHEET</td><td colspan="2">01</td></tr><tr><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2"></td><td colspan="2">TOTAL SHEET</td><td colspan="2">13</td></tr></table>												A		D		C		B		A		REV.		DATE		DESCRIPTION of REVISION		CUSTOMER		SMART(BR)		APPROVED										J.S.PARK		DATE 2017. 09						J.H.KIM		DATE 2017. 09						S.B.CHOI		DATE 2017. 09						S.B.CHOI		DATE 2017. 09								SUPPLIER		DWG. NAME		DWG. NAME INDEX										DWG. NO.		EP08-002672A										PROJECT		SMART(BR)																						UNIT		mm										REV. NO.		0										SHEET		01										TOTAL SHEET		13	
A		D		C		B		A																																																																																																																																																													
REV.		DATE		DESCRIPTION of REVISION		CUSTOMER		SMART(BR)		APPROVED																																																																																																																																																											
								J.S.PARK		DATE 2017. 09																																																																																																																																																											
				J.H.KIM				DATE 2017. 09																																																																																																																																																													
				S.B.CHOI				DATE 2017. 09																																																																																																																																																													
				S.B.CHOI				DATE 2017. 09																																																																																																																																																													
						SUPPLIER		DWG. NAME		DWG. NAME INDEX																																																																																																																																																											
								DWG. NO.		EP08-002672A																																																																																																																																																											
								PROJECT		SMART(BR)																																																																																																																																																											
								UNIT		mm																																																																																																																																																											
								REV. NO.		0																																																																																																																																																											
								SHEET		01																																																																																																																																																											
								TOTAL SHEET		13																																																																																																																																																											

**SPECIFICATION -1**

[illegible]A

6

5

4

3

2

1

F

E

D

C

B

A

SPECIFICATION -2

1	PROJECT NAME	BR SMART
2	APPLICATION	<input type="checkbox"/> UL <input checked="" type="checkbox"/> IEC <input type="checkbox"/> JIS/JEM <input type="checkbox"/> ANSI
3	WORKING CONDITION	HEIGHT : UP TO 1000M ABOVE SEA LEVEL SURROUNDING: MIN ( -10 )°C, MAX ( 40 )°C HUMIDITY : ( 80 )% BELOW
4	PANEL	1) STEEL THICKNEES FRAME: <input checked="" type="checkbox"/> 2.3t <input type="checkbox"/> 3.2t DOOR: <input type="checkbox"/> 2.3t <input checked="" type="checkbox"/> 3.2t COVER: <input checked="" type="checkbox"/> 2.3t <input type="checkbox"/> 3.2t OTHERS: <input checked="" type="checkbox"/> 2.3t <input type="checkbox"/> 3.2t 2) COLOR <input checked="" type="checkbox"/> 5Y 7/1 <input type="checkbox"/> 7.5BG 6/1.5 3) PAINTING THICKNEES <input checked="" type="checkbox"/> 60um <input type="checkbox"/> 4) PROTECTION CLASS <input type="checkbox"/> IP41 <input checked="" type="checkbox"/> IP54
5	EACH CONDUCTOR COLOR	1) COLOR CLASSIFY(AC THREE PHASE) R(L1): BLACK, S(L2): RED, T(L3): BLUE, G(E): GREEN 2) COLOR CLASSIFY(AC SINGLE PHASE) R(L1): BLACK, S(L2): RED, T(L3): BLUE, N: WHITE 3) COLOR CLASSIFY(DC) P:RED, N: BLUE

6	INTERNAL WIRE	1) DC CONTROL : <input checked="" type="checkbox"/> KIV BLUE <input checked="" type="checkbox"/> 1.5SQ 2) AC CONTROL : <input checked="" type="checkbox"/> KIV YELLOW <input checked="" type="checkbox"/> 1.5SQ 3) PT SECONDARY : <input checked="" type="checkbox"/> KIV RED <input checked="" type="checkbox"/> 2.5SQ 4) CT SECONDARY : <input checked="" type="checkbox"/> KIV BLACK <input checked="" type="checkbox"/> 4.0SQ 5) ZCT SECONDARY: <input type="checkbox"/> KIV BLACK <input type="checkbox"/> 1.5SQ 6) SIGNAL GROUND : <input checked="" type="checkbox"/> KIV GREEN <input checked="" type="checkbox"/> 2.5SQ 7) HV CABLE : <input type="checkbox"/> MLFC BLACK <input type="checkbox"/> 60SQ 8) LV GROUND : <input type="checkbox"/> F-GV GREEN <input checked="" type="checkbox"/> 95SQ
7	NAME PLATE	1) MATERIAL <input checked="" type="checkbox"/> PHENOLIC <input type="checkbox"/> ACRYL <input type="checkbox"/> ALLUMINUM <input type="checkbox"/> SUS 2) BACK GROUND COLOR: <input checked="" type="checkbox"/> WHITE <input type="checkbox"/> BLACK 3) LETTER COLOR: <input type="checkbox"/> WHITE <input checked="" type="checkbox"/> BLACK 4) SIGN LETTER: <input checked="" type="checkbox"/> ENGLISH <input type="checkbox"/> KOREA

D			CUSTOMER	SMART(BR)	APPROVED	J.S.PARK	DATE	2017. 09	DWG. NAME	SPECIFICATION-2	=		UNIT	mm
C					CHECKED	J.H.KIM	DATE	2017. 09	DWG. NO.	EP08-002672A	+		REV. NO.	0
B			SUPPLIER		DESIGNED	S.B.CHOI	DATE	2017. 09	PROJECT	SMART(BR)	&		SHEET	03
A					DRAWN	S.B.CHOI	DATE	2017. 09					TOTAL SHEET	13
REV.	DATE	DESCRIPTION of REVISION												

6

5

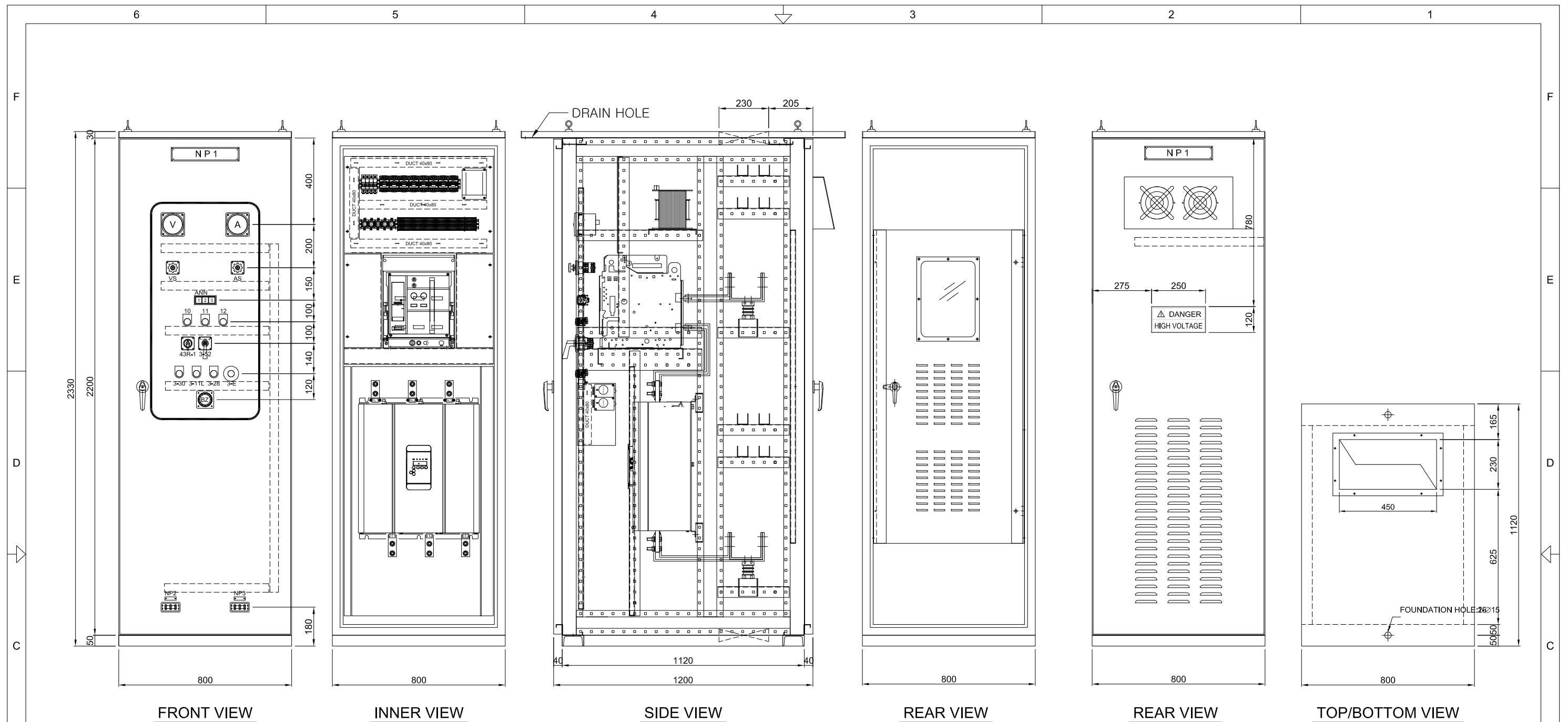
4

3

2

1





- NOTE -

1. BUSBAR SIZE : 8t x 50m/m x 2L


NAME PLATE (PHENOLIC)  
THE LETTERING  
IS BLACK ON WHITE BACK GROUND  
w315xh63

NP-NO	LETTER
NP 1	MOTOR STARTER 3Phase 380V 600HP 60HZ


NAME PLATE (PHENOLIC)  
THE LETTERING  
IS BLACK ON WHITE BACK GROUND  
w52xh15

CP-NO	LETTER
NP2	PTT
NP3	CTT


COS, CS NP ALUMINUM

	DEV.NO.	A	B	C
	3-52	OFF		ON
	43R-1	LOCAL		REMOTE

PILOT LAMP-NP PHENOLIC


TEST LAM-4N1-17EN010			
	BS-NP	LETTER	COLOR
	10	STOP	GREEN
	11	START	RED
	12	RUN	RED

PUSH BUTTON-NP PHENOLIC

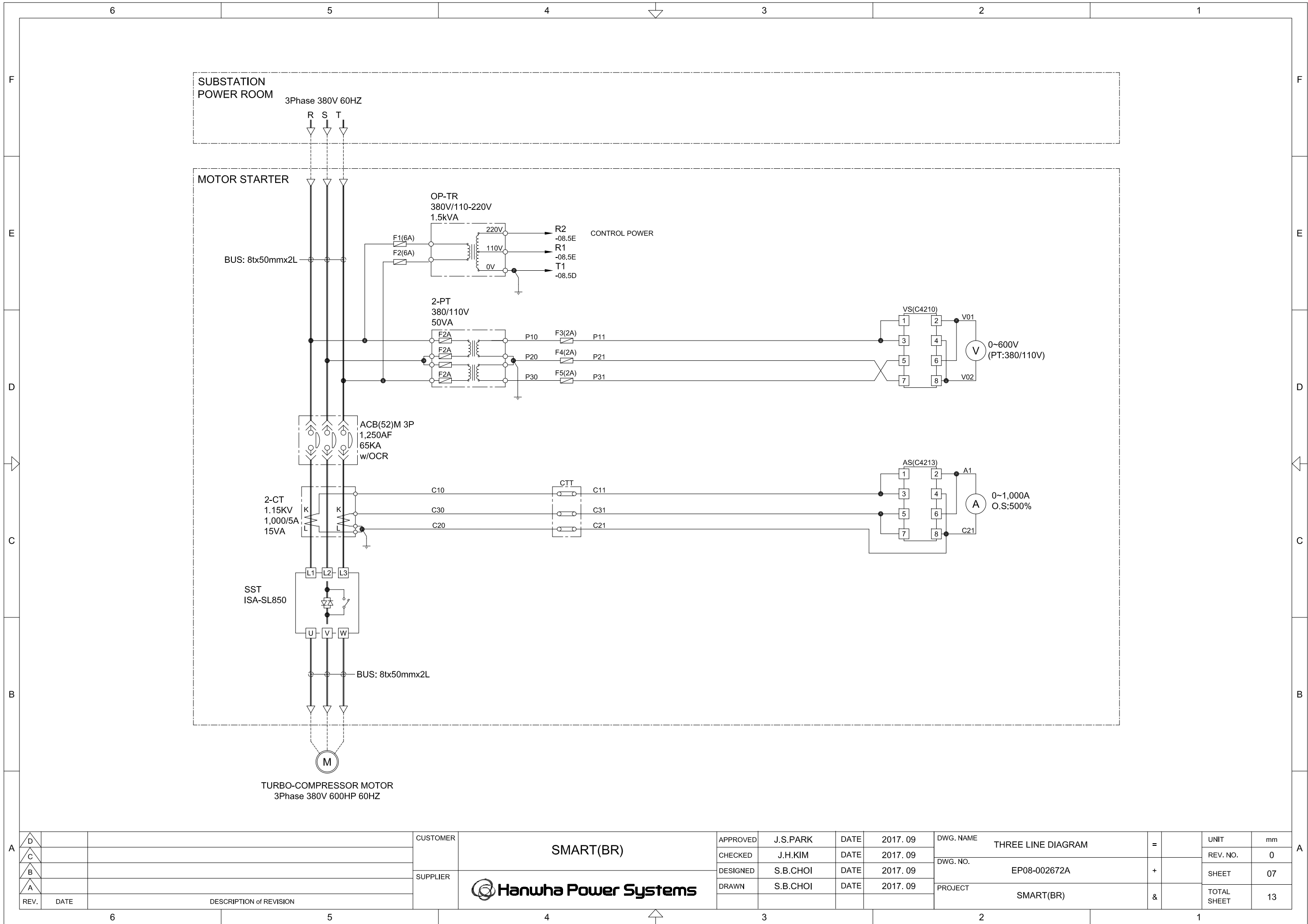
POSITION FOR 4P FRIENDS			
	BS-NP	LETTER	COLOR
	3-30	RESET	YELLOW
	3-11L	LAMP TEST	BLUE
	3-28	BZ-STOP	GREEN

ANN NAME PLATE DESCRIPTION

ACB OCR FAULT	SOFT-STARTER FAULT	EMERGENCY STOP
------------------	-----------------------	-------------------

A	D			CUSTOMER	SMART(BR)	APPROVED	J.S.PARK	DATE	2017. 09	DWG. NAME	OUT LINE DIAGRAM-1	=		UNIT	mm	A
	C					CHECKED	J.H.KIM	DATE	2017. 09					REV. NO.	0	
	B			SUPPLIER		DESIGNED	S.B.CHOI	DATE	2017. 09	DWG. NO.	EP08-002672A	+		SHEET	05	
	A					DRAWN	S.B.CHOI	DATE	2017. 09					PROJECT	SMART(BR)	
	REV.	DATE	DESCRIPTION of REVISION													
6			5		4		3		2		1					

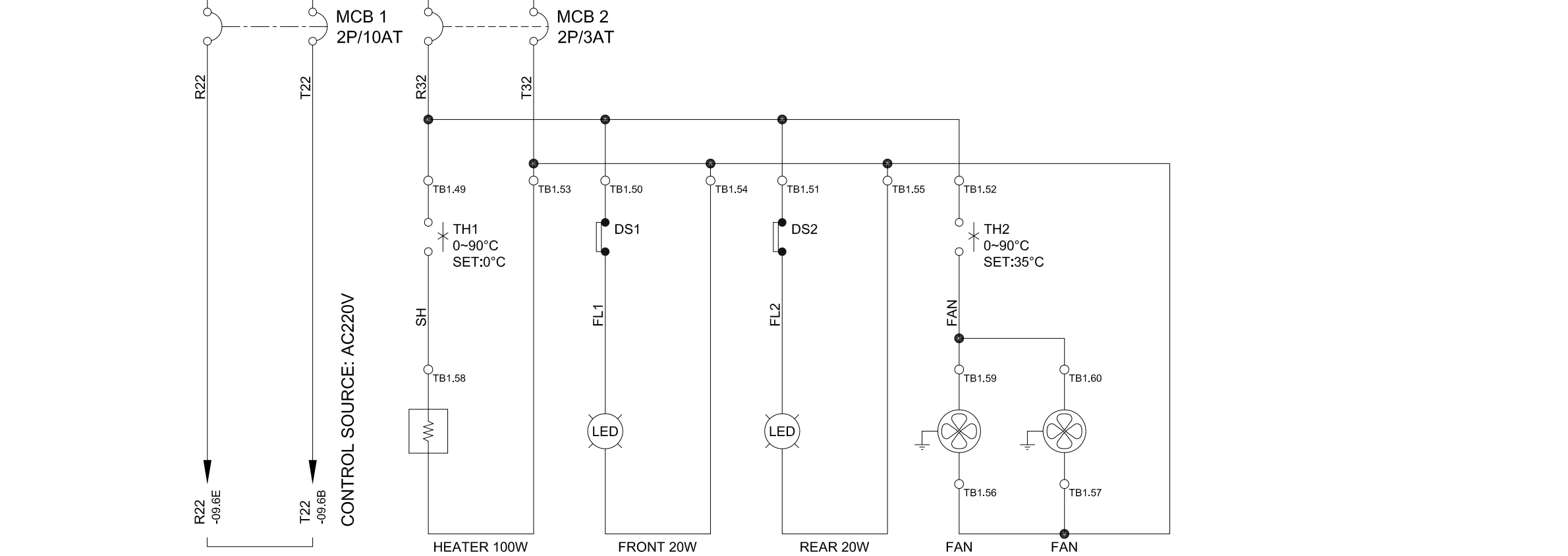
6		5		4		3		2		1	
BLANK PAGE											
6		5		4		3		2		1	
6		5		4		3		2		1	






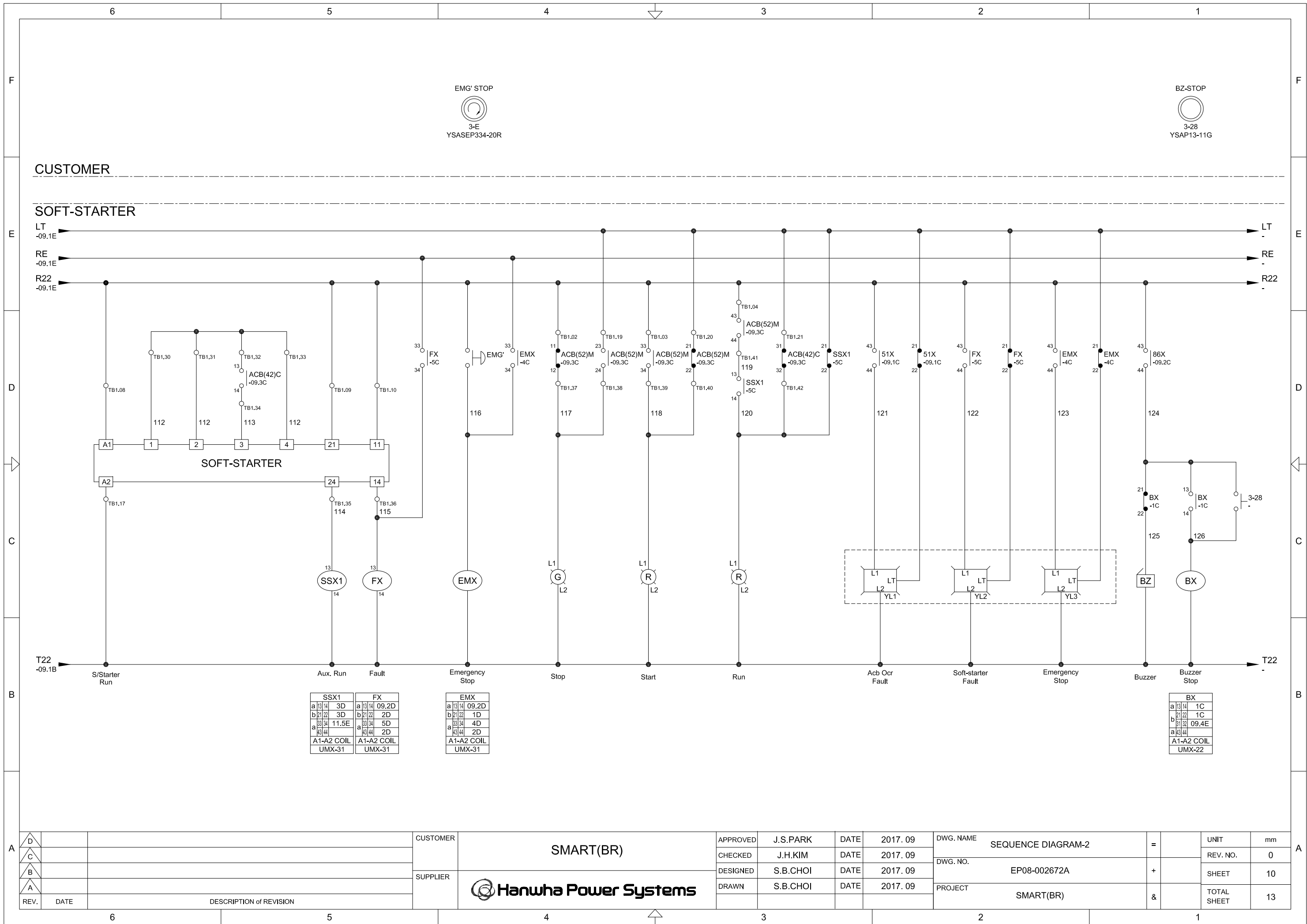


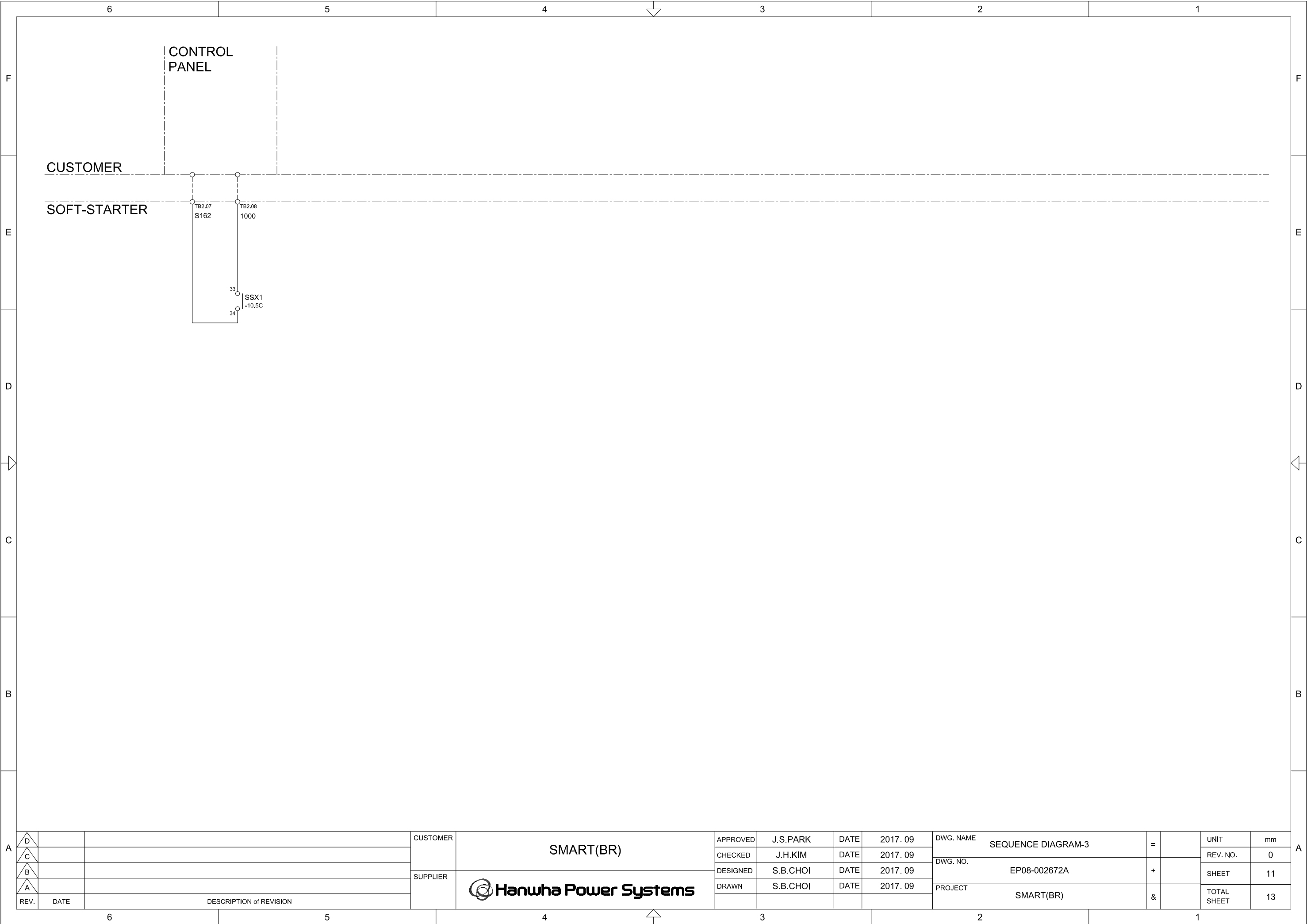
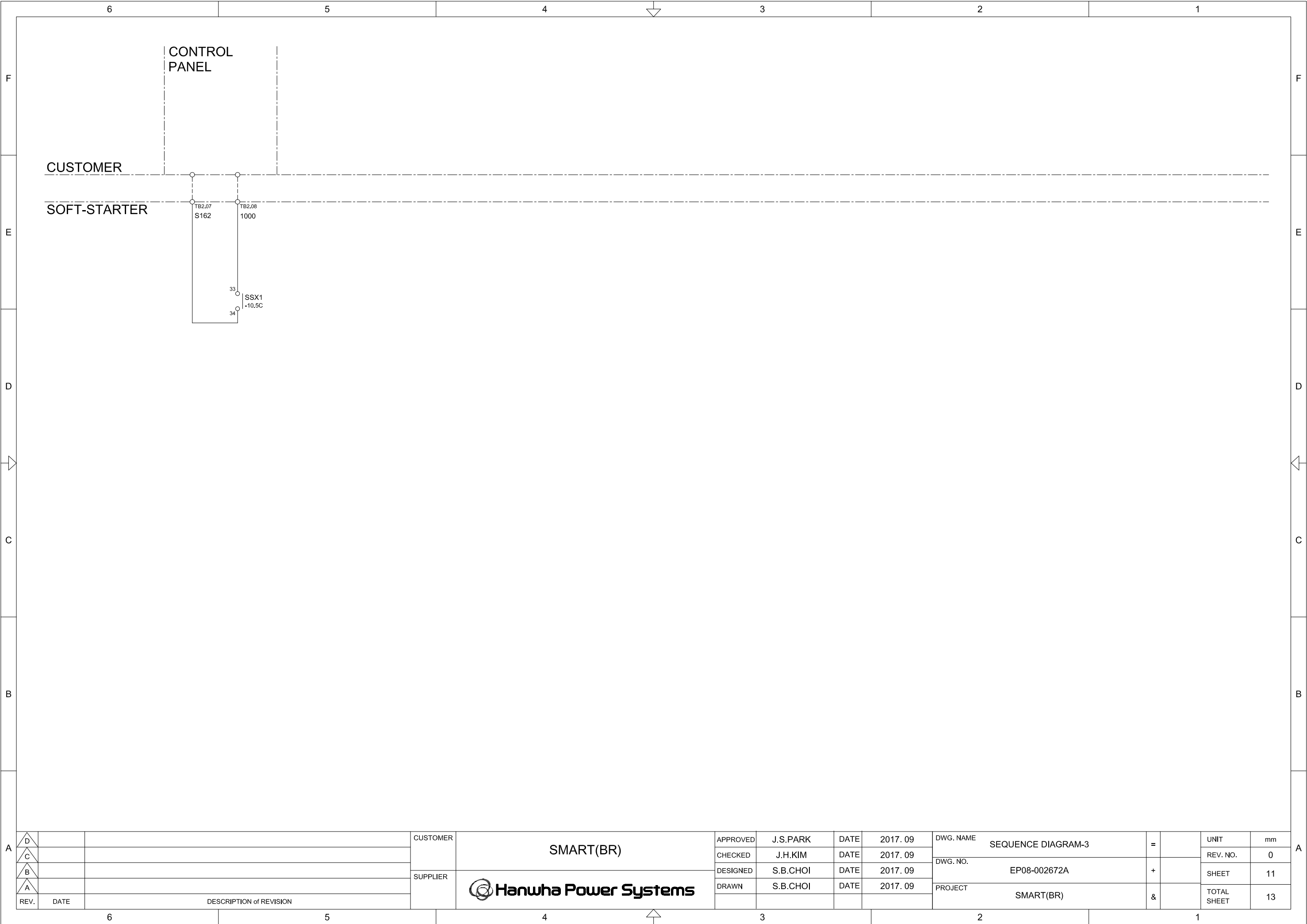
Timing diagram showing R2, R1, and T1 signals over time. The signals are labeled R2, R1, and T1. The time axis is marked with -07.4E. The signals are high (R2, R1) and low (T1). R2 and R1 have a transition at the first clock edge. T1 has a transition at the second clock edge.



D			CUSTOMER	SMART(BR)	APPROVED	J.S.PARK	DATE	2017. 09	DWG. NAME	CONTROL LINE DIAGRAM	=		UNIT	mm	A
C					CHECKED	J.H.KIM	DATE	2017. 09					REV. NO.	0	
B					DESIGNED	S.B.CHOI	DATE	2017. 09	DWG. NO.	EP08-002672A	+		SHEET	08	
A					DRAWN	S.B.CHOI	DATE	2017. 09	PROJECT	SMART(BR)	&		TOTAL SHEET	13	
REV.	DATE	DESCRIPTION of REVISION			SUPPLIER										







6						5				4				3				2				1			
F																								F	
E																								E	
D																								D	
C																								C	
B																								B	
A																								A	
6						5				4				3				2				1			
6						5				4				3				2				1			

TB NO.		TB 1	
AMPARE		15A	
TB-NO.	WIRE NO.	REMARK	TO
01	R22	Acb(52)M Motor Charging	Control
02	R22	Acb(52)M UVT Coil	
03	R22	Acb(52)M "b" Contactor	
04	R22	Acb(52)M "a" Contactor	
05	R22	Acb(52)M "a" Contactor	
06	R22	Acb(52)M Trip Relay Power	
07	R22	Acb(52)M Trip Relay	
08	R22	Soft-starter Power	
09	R22	Soft-starter Aux.Run	
10	R22	Soft-starter Fault	
11	R22		
12	T22	Acb(52)M Motor Charging	
13	T22	Acb(52)M Close	
14	T22	Acb(52)M Open	
15	T22	Acb(52)M UVT Coil	
16	T22	Acb(52)M Trip Relay Power	
17	T22	Soft-starter Power	
18	T22		
19	LT	Stop Lamp Test	
20	LT	Start Lamp Test	
21	LT	Run Lamp Test	
22	LT		
23	106	Acb(52)M Close Coil	
24	107	Acb(52)M Open Coil	
25	109	Acb(52)M Trip Reset	
26	110		
27	111	Acb(52)M Ocr Fault	
28	111		
29	111		
30	112	Soft-starter Run/Stop	
31	112		
32	112		
33	112		
34	113	Soft-starter Run/Stop	
35	114	Soft-starter Aux.Run	
36	115	Soft-starter Fault	
37	117	Stop Lamp	
38	117		
39	118	Start Lamp	
40	118		
41	119	Run Lamp	
42	120	Run Lamp	
43			
44			
45			
46			
47			
48			
49	R32	Space Heater	
50	R32	Front Door Lighting	

TB NO.		TB 1	
AMPARE		15A	
TB-NO.	WIRE NO.	REMARK	TO
51	R32	Rear Door Lighting	Control
52	R32	Panel Cooling Fan	
53	T32	Space Heater	
54	T32	Front Door Lighting	
55	T32	Rear Door Lighting	
56	T32	Panel Cooling Fan	
57	T32	Panel Cooling Fan	
58	SH	Space Heater	
59	FAN	Panel Cooling Fan	
60	FAN	Panel Cooling Fan	

TB NO.		TB 2	
AMPARE		15A	
TB-NO.	WIRE NO.	REMARK	TO
01	R22	Ready	Customer
02	100		
03	102	Remote Run	Control Panel
04	103		
05	R22	Remote Stop	
06	105		
07	S162	Starter Panel Feedback	
08	1000		
09			
10			

D			CUSTOMER	SMART(BR)				APPROVED	J.S.PARK	DATE	2017. 09	DWG. NAME	TERMINAL BLOCK DIAGRAM	=		UNIT	mm	
C								CHECKED	J.H.KIM	DATE	2017. 09	DWG. NO.	EP08-002672A	+		REV. NO.	0	
B			SUPPLIER					DESIGNED	S.B.CHOI	DATE	2017. 09	PROJECT		SMART(BR)	&		SHEET	13
A	REV.	DATE	DESCRIPTION of REVISION								DRAWN	S.B.CHOI	DATE	2017. 09			TOTAL SHEET	13

6						5				4				3				2				1			
6						5				4				3				2				1			

6		5		4		3		2		1	
PART LIST											
NO.	SYMBOL	DESCRIPTION	SPECIFICATION	Q'TY	TYPE	MAKER	REMARK				
1	ACB	AIR CIRCUIT BRAKER	3P 1,250A 65kA w/OCR	1	AN-13D3-13J	LSIS					
2	SST	SOFT-STARTER	3P 380V 600HP	1	ISA-SL850	IGEL					
3	PT	POTENTIAL TRANSFORMER	3P 380V/110V 50VA	1	KBO50-22	LIGHT STAR					
4	CT	CURRENT TRANSFOMER	1.15KV 1,000/5A 15VA	2	KBM-14	LIGHT STAR					
5	OP TR	OPERATION TRANSFORMER	1P 380/110-220V 1.5kVA	1	1P 1.5kVA	SINSEUNG					
6	V	VOLT-METER	0~600V 380/110V	1	WA-V2	KYONGBO					
7	A	AMPERE METER	0~1,000A OS:500%	1	WA-A2	KYONGBO					
8	VS	VOLTAGE TRANSFER SWITCH	3P3W	1	YSC4210-64MOB	YONG SUNG					
9	AS	AMPERE TRANSFER SWITCH	3P3W	1	YSC4213-64MOB	YONG SUNG					
10	3-52	CONTROL SWITCH	OFF ↔ ON	1	YSDNC3102-64RP10B	YONG SUNG					
11	43R	CAM SWITCH	LOCAL ↔ REMOTE	1	YSDNC2101-64MO10B	YONG SUNG					
12	PTT	VOLTAGE TEST TERMINAL	3POLE	1	YSPTT-03S	YONG SUNG					
13	CTT	CURRENT TEST TERMINAL	3POLE	1	YSCTT-03S	YONG SUNG					
14	3-30	PUSH BUTTON	P30 1a1b YELLOW	1	YSAP13-11Y	YONG SUNG					
15	3-11L	PUSH BUTTON	P30 1a1b BLUE	1	YSAP13-11N	YONG SUNG					
16	3-28	PUSH BUTTON	P30 1a1b GREEN	1	YSAP13-11G	YONG SUNG					
17	3-E	EMERGENCY PUSH BUTTON	P30 1a1b RED	1	YSSEP334-11R	YONG SUNG					
18	10	PILOT LAMP	P30 AC220V GREEN	1	YSPL3-AL22G	YONG SUNG					
19	11,12	PILOT LAMP	P30 AC220V RED	2	YSPL3-AL22R	YONG SUNG					
20	ANN	SQUARE LAMP	30x30 AC220V(Y,Y,Y)	1	YSSL33-AL22	YONG SUNG					
21	BZ	BUZZER	P66 AC220V	1	KMB-P80A2	KACON					
22	F1,F2	FUSE HOLDER	FUSE:6A	2	SHFH-30CH	SUNGHO					
23	F3,F4,F5	FUSE HOLDER	FUSE:2A	3	SHFH-30CH	SUNGHO					
24	MCB1	MINIATURE CIRCUIT BREAKER	2P 10A	1	C60N-C10A	SCHNEIDER					
25	MCB2	MINIATURE CIRCUIT BREAKER	2P 3A	1	C60N-C3A	SCHNEIDER					
26	RY	AUX.RELAY	AC220V 3a1b	6	UMX-31	HYUNDAI					
27	RY	AUX.RELAY	AC220V 2a2b	2	UMX-22	HYUNDAI					
28	LED	LED LAMP	AC220V 20W	2	KG-PL200V	KG-AUTO					
29	DS	MICRO SWITCH	AC250V 1a1b	2	Z15G-07B	KACON					
30	FAN	PANEL COOLING FAN	P150 AC220V	2	SJ1725HA2	SUNTRONIX					
31	TS	THERMER START	0~90°C	2	CY1T-90	CYMAX					
32	SH	SPACE HEATER	AC220V 100W	1	CYSH-AL2	CYMAX					
33											
34											
35											

D			CUSTOMER	SMART(BR)				APPROVED	J.S.PARK	DATE	2017. 09	DWG. NAME	PART LIST	=		UNIT	mm
C								CHECKED	J.H.KIM	DATE	2017. 09	DWG. NO.	EP08-002672A	+		REV. NO.	0
B			SUPPLIER					DESIGNED	S.B.CHOI	DATE	2017. 09			&		SHEET	13
A	REV.	DATE	DESCRIPTION of REVISION					DRAWN	S.B.CHOI	DATE	2017. 09	PROJECT	SMART(BR)			TOTAL SHEET	13

6		5		4		3		2		1	
---	--	---	--	---	--	---	--	---	--	---	--