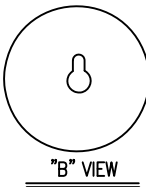
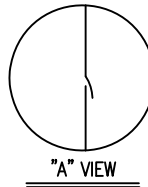
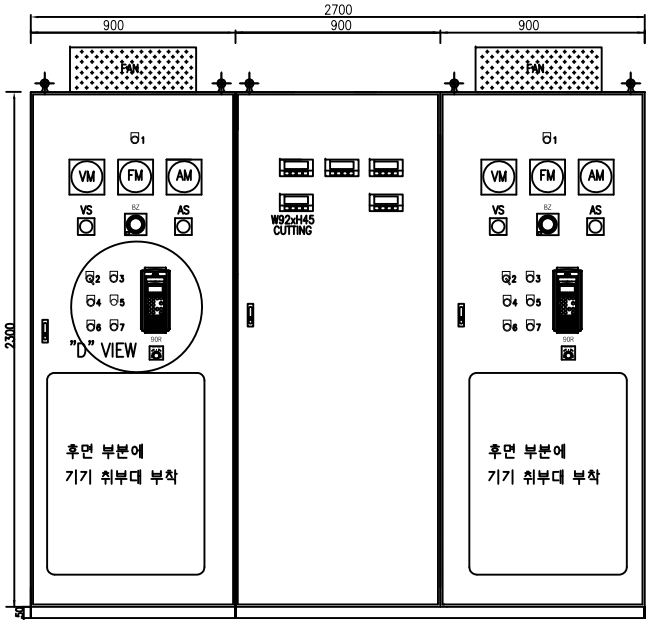


TOP VIEW

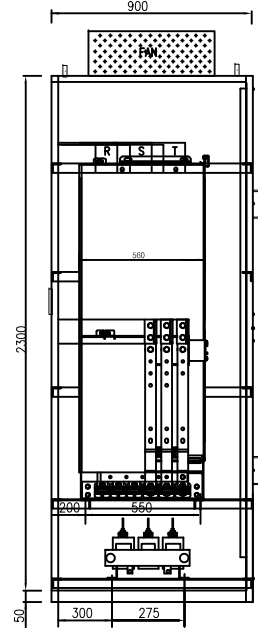
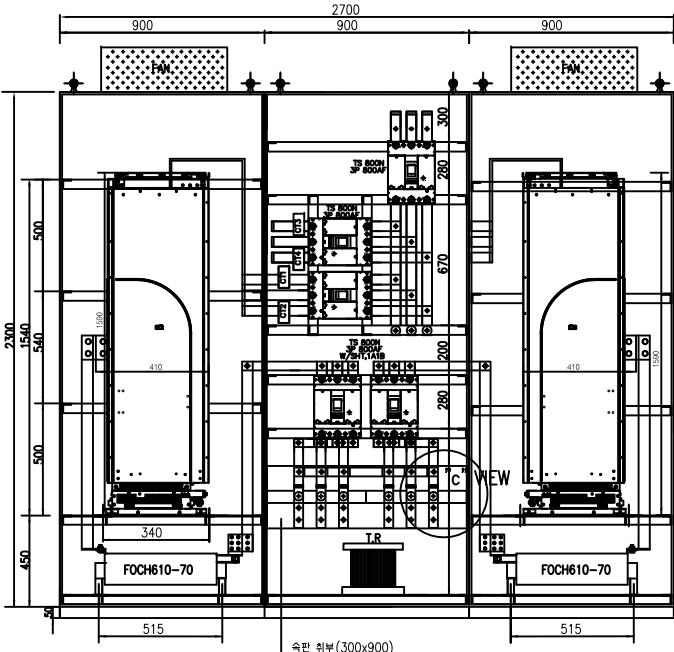


"A" VIEW

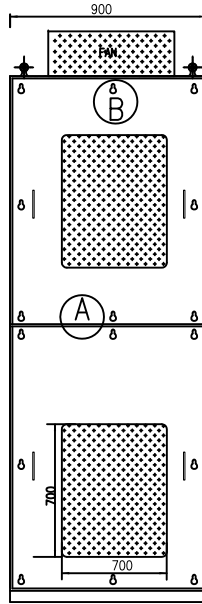
"B" VIEW



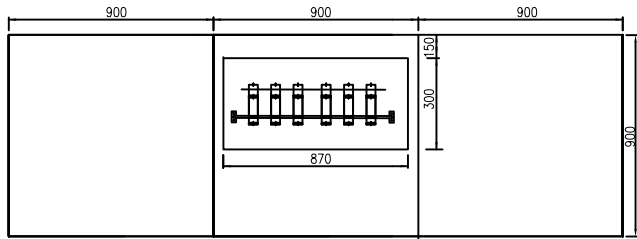
FRONT VIEW



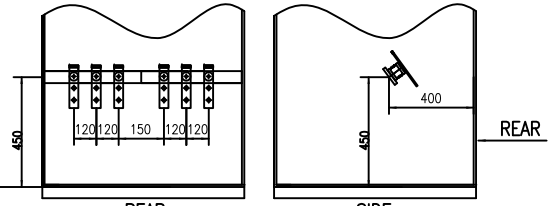
SIDE VIEW



REAR VIEW



BOTTOM VIEW



"c" VIEW

No.	ITEM	MODEL	Q'TY	MAKER	NOTE
1	POWER ON (PL AC220V)	25mmDIA	1	만용전기	1. TYPE : SELF STANDING & DUST PROOF 2. MATERIAL : Door 3.2t, Etc 2.3t 3. COLOR : 5Y 7/1 4. HANDLE : H-301
2	INVERTER LOCAL - REMOTE SELECTOR SWITCH	25mmDIA	1	만용전기	
3	INVERTER READY LAMP(PL AC220V)	25mmDIA	1	만용전기	
4	INVERTER RUN PUSH BUTTON LAMP(PBL AC220V)	25mmDIA	1	만용전기	
5	INVERTER STOP PUSH BUTTON LAMP(PBL AC220V)	25mmDIA	1	만용전기	
6	FAULT & RESET (PBL AC220V)	25mmDIA	1	만용전기	
7	Buzzer STOP (PB)	25mmDIA	1	만용전기	

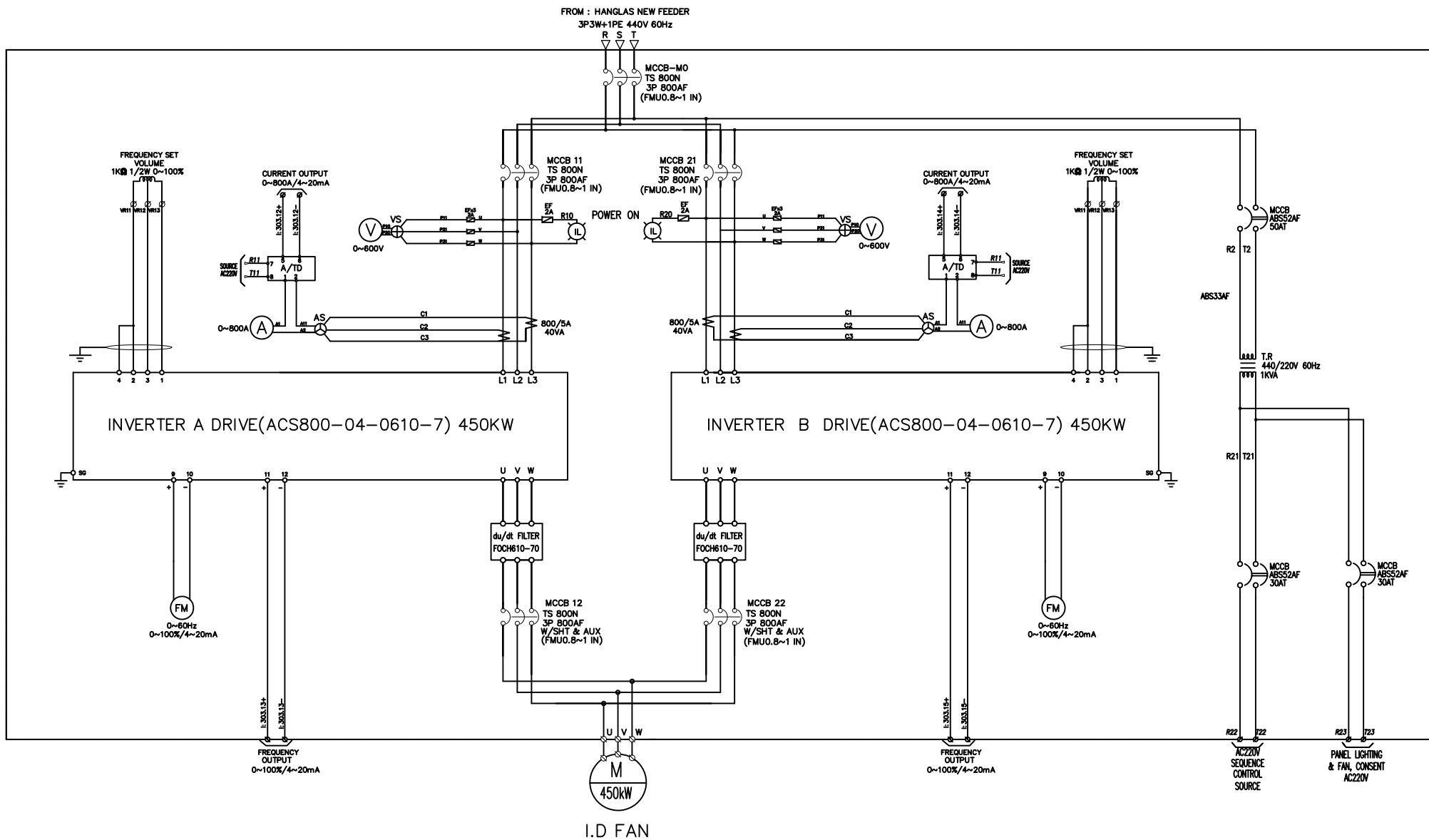
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE
	1	2	3



TITLE INVERTER A/B PANEL  
LAYOUT DRAWING

PROJECT ID FAN

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-002			SHEET NO.	002



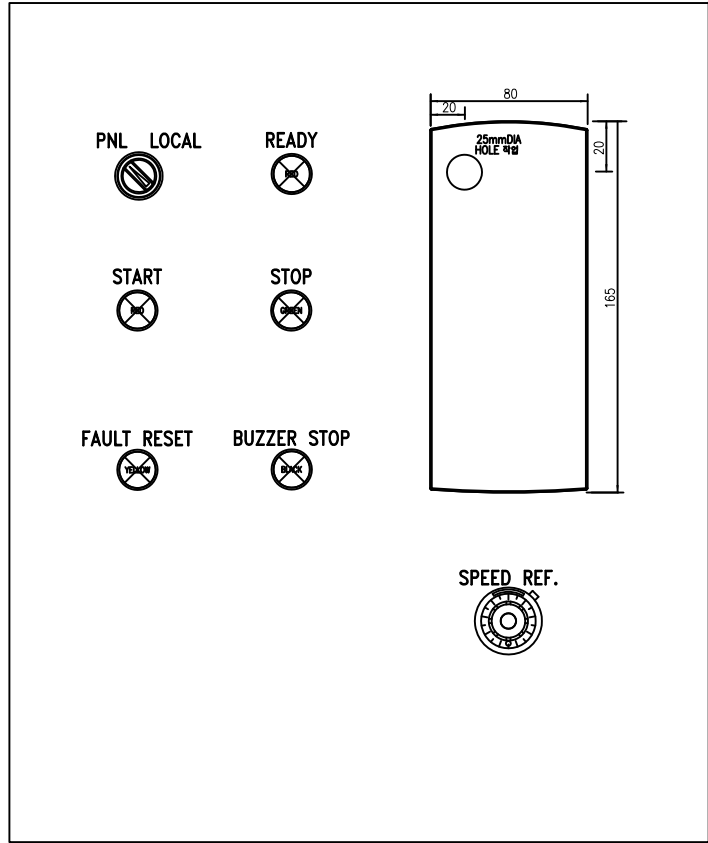
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



TITLE INVERTER A/B PANEL  
THREE LINE DIAGRAM

PROJECT ID FAN

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-003			SHEET NO.	003



"D" VIEW

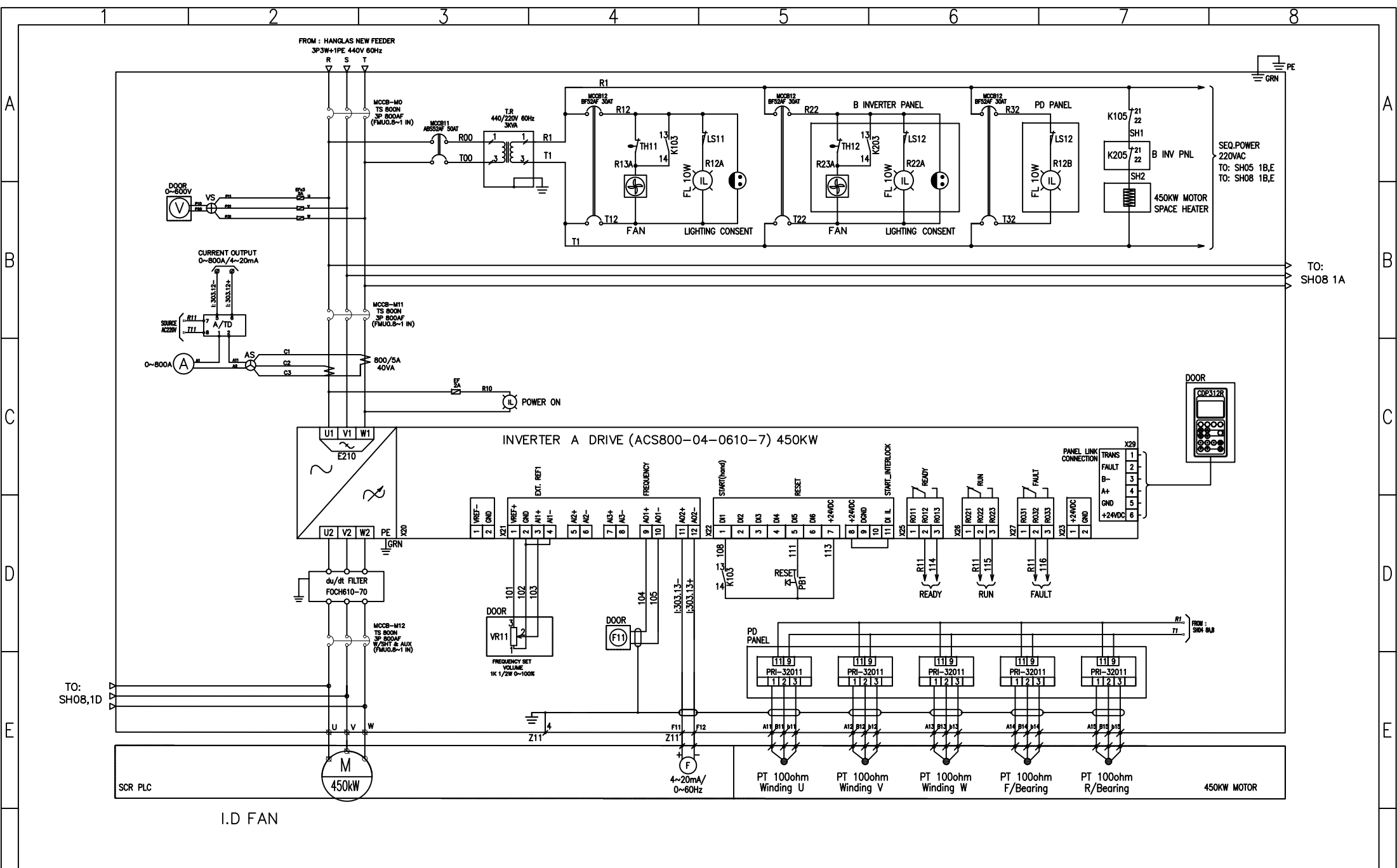
No.	ITEM	Q'TY	REMARK
1	LOCAL - REMOTE (SELECTOR SWITCH)	1	
2	READY LAMP (PL AC220V)	1	
3	START (PBL AC220V)	1	
4	STOP (PBL AC220V)	1	
5	FAULT & RESET (PBL AC220V)	1	
6	BUZZER STOP (PB)	1	
7	SPEED REF. (VOLUME)	1	

△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



TITLE		DOOR CONTROL PART	
		LAYOUT	
PROJECT	ID FAN		

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-004			SHEET NO.	004

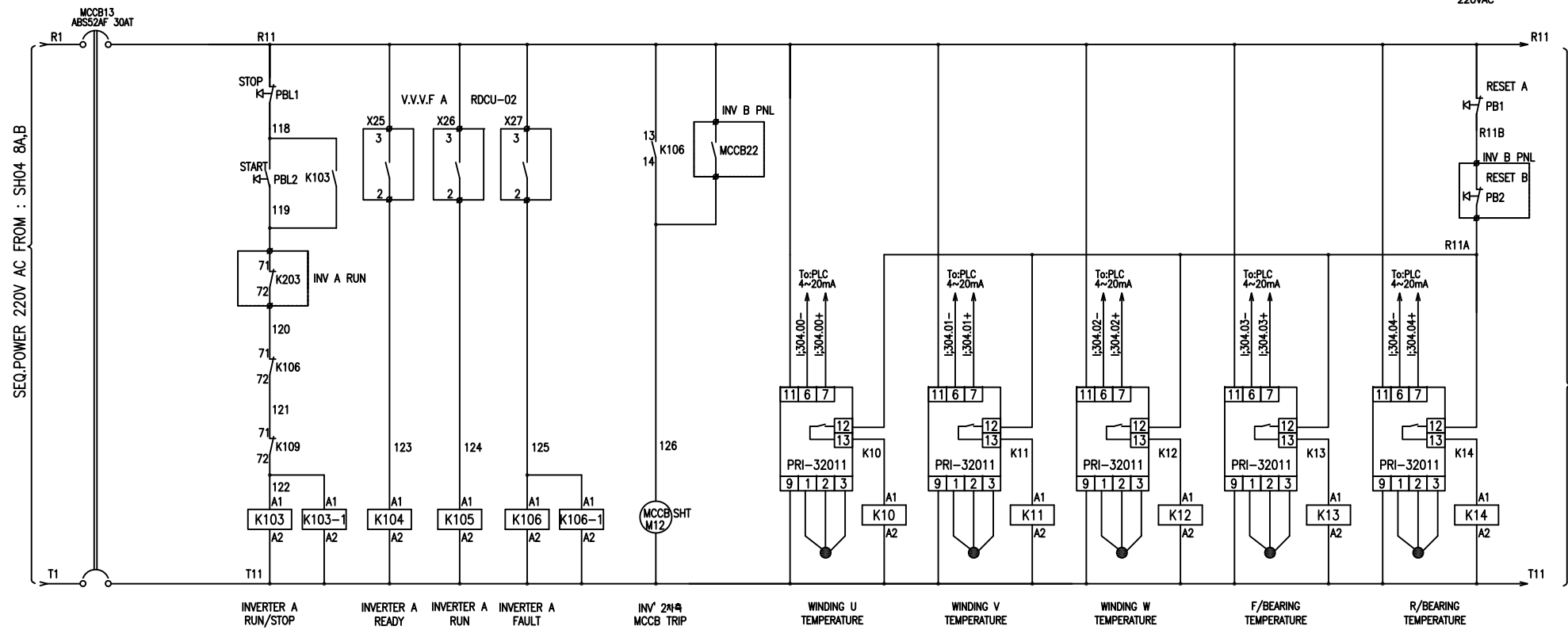
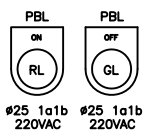


△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE


**(주)호원아이엔씨**  
HOWON Instrument & control Co., Ltd.

TITLE	INVERTER A PANEL	
	THREE LINE FOR DIAGRAM	
PROJECT	ID FAN	

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-005			SHEET NO.	005



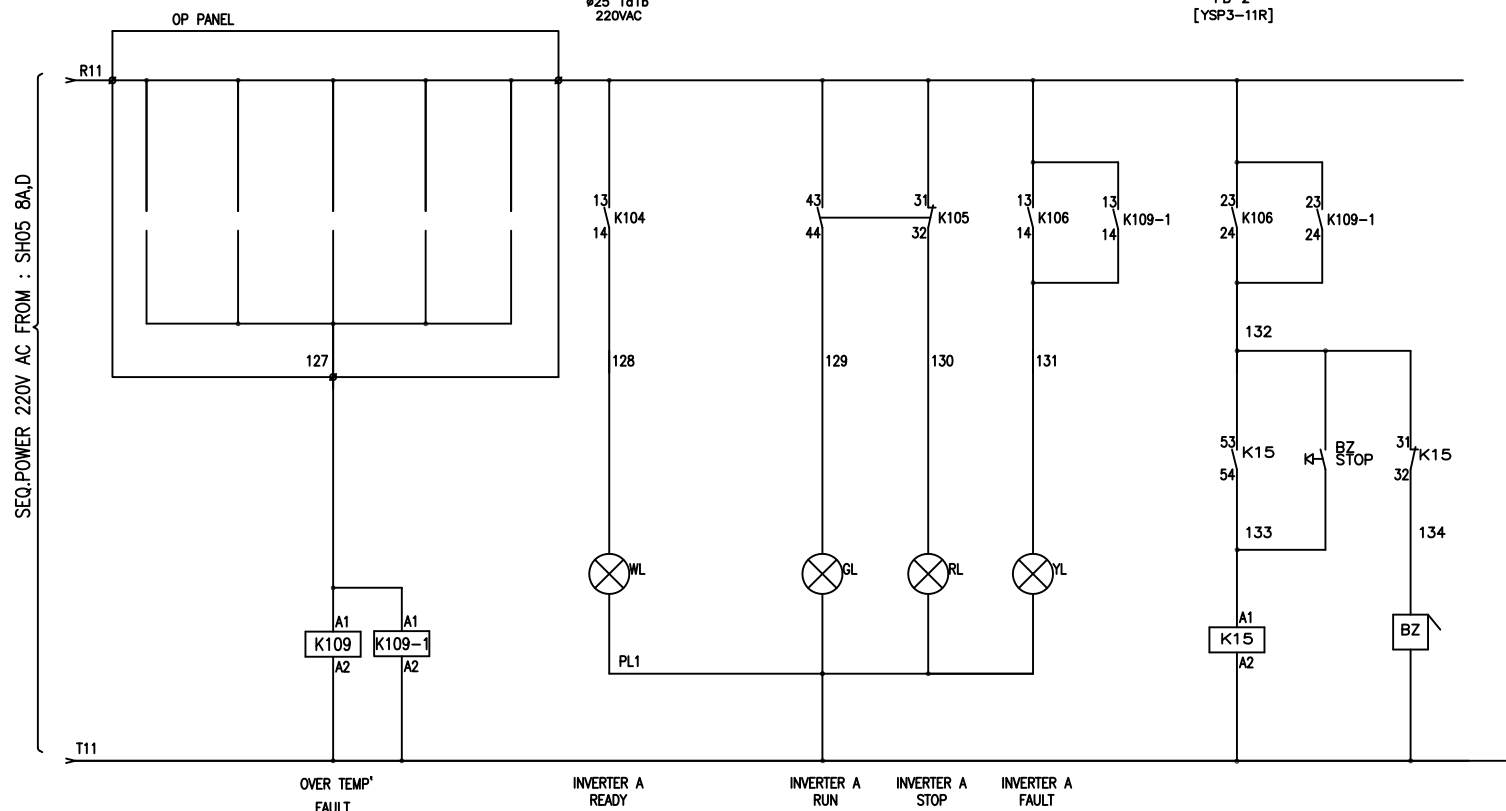
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



TITLE INVERTER A PANEL  
SEQUENCE FOR DIAGRAM

PROJECT ID FAN

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-006			SHEET NO.	006



OVER TEMP' FAULT      INVERTER A READY      INVERTER A RUN      INVERTER A STOP      INVERTER A FAULT

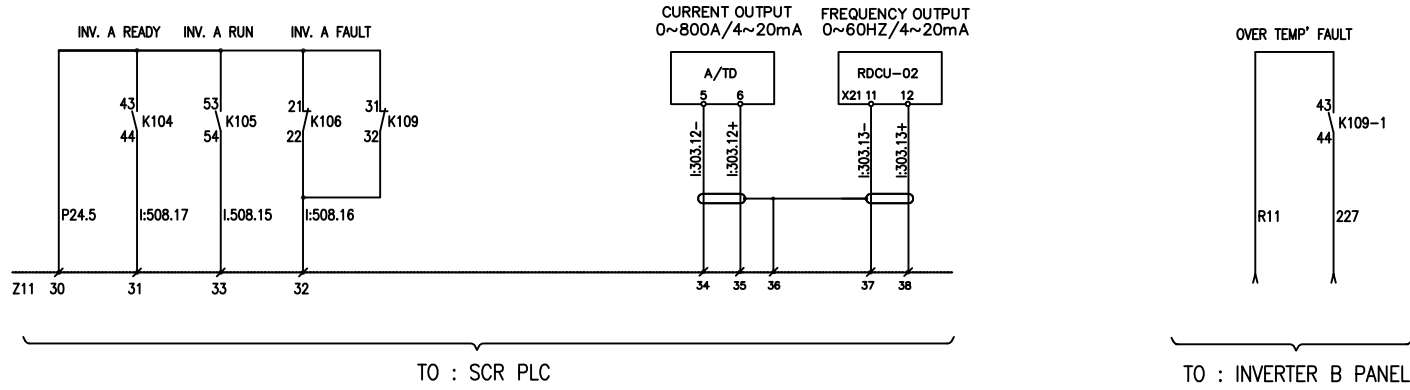
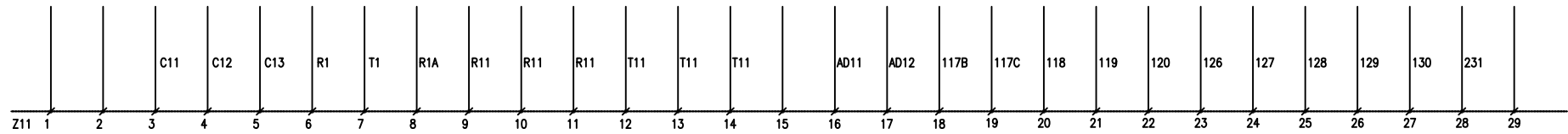
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



TITLE      INVERTER A PANEL  
SEQUENCE FOR DIAGRAM

PROJECT      ID FAN

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-007			SHEET NO.	007

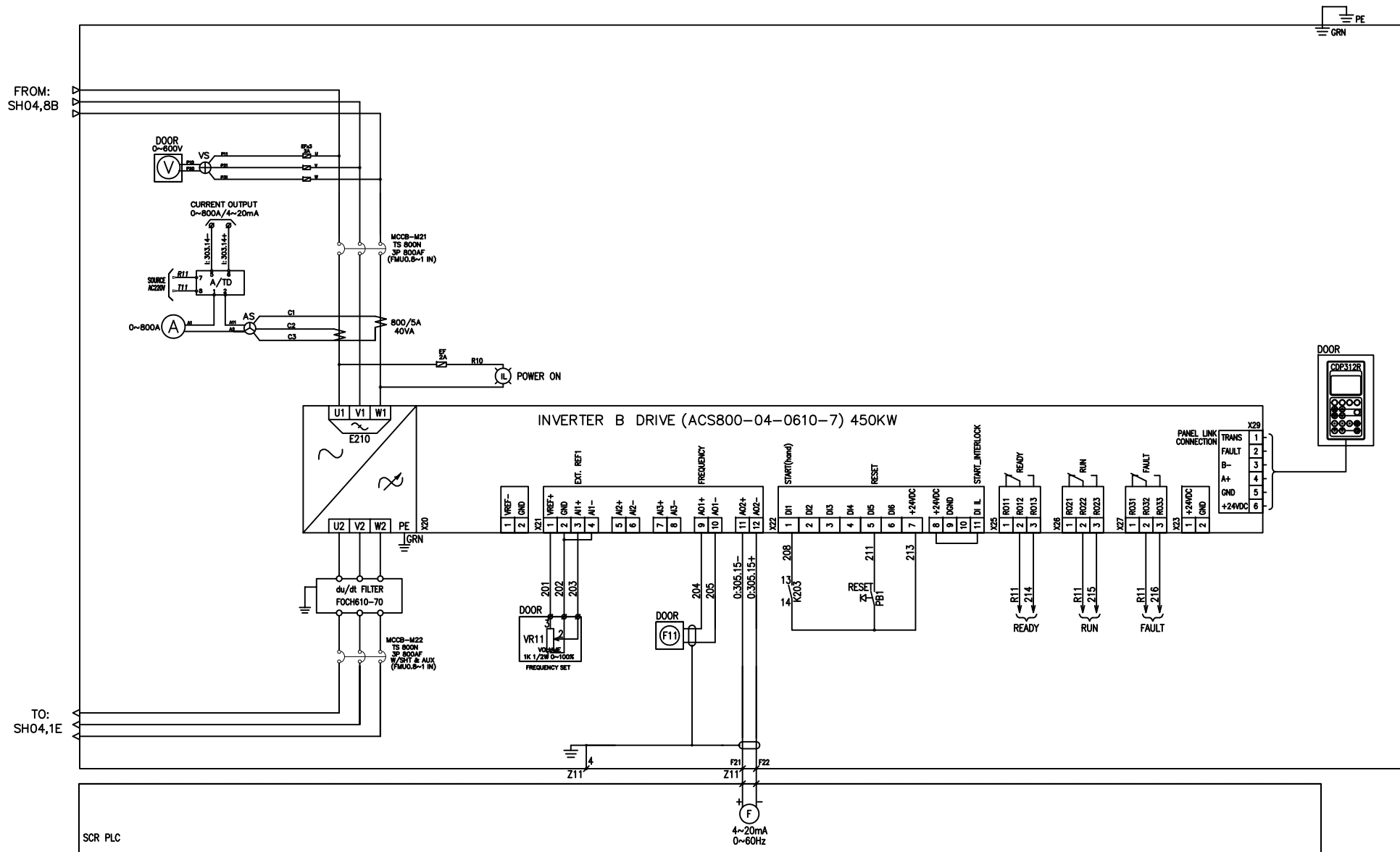


△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE


**(주)호원아이엔씨**  
HOWON Instrument & control Co., Ltd.

TITLE		INVERTER A PANEL			
		SEQUENCE FOR DIAGRAM			
PROJECT	ID FAN				

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-008			SHEET NO.	008



△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE

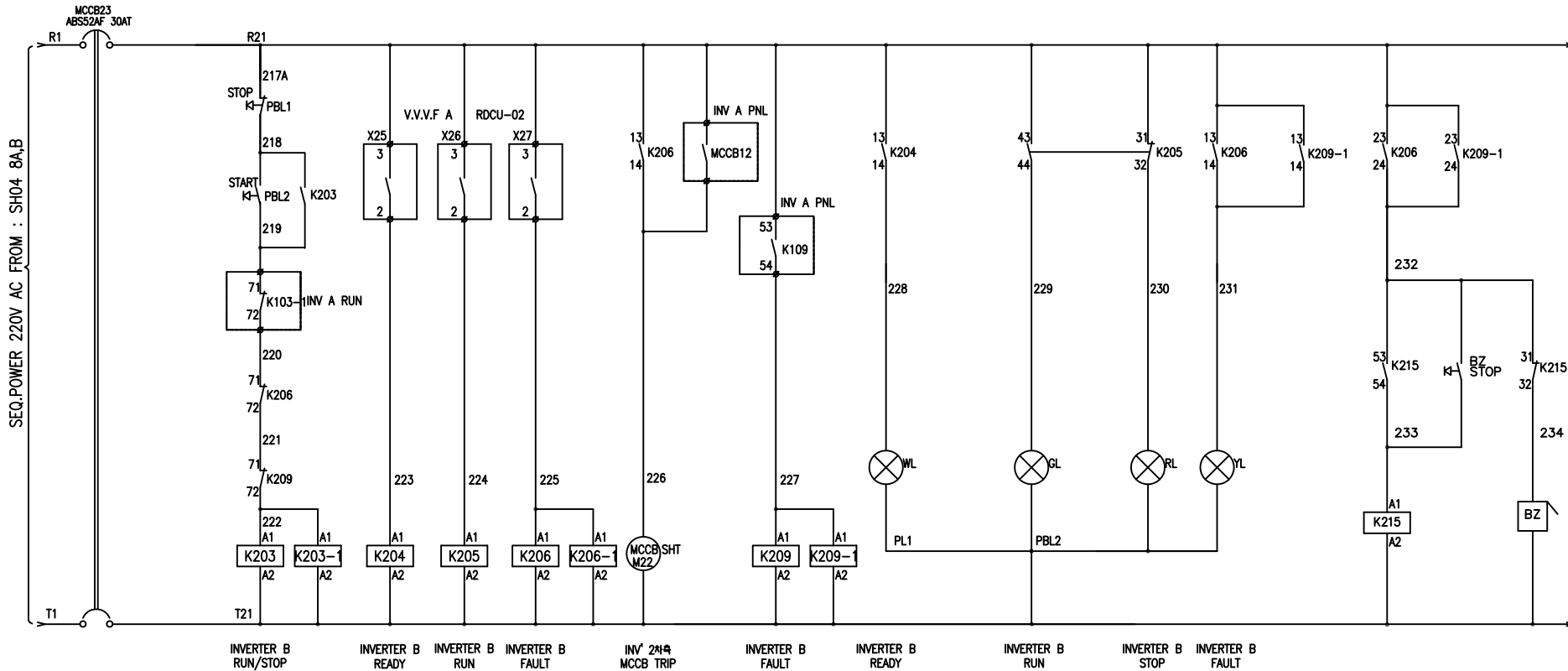


TITLE INVERTER B PANEL  
THREE LINE FOR DIAGRAM

PROJECT ID FAN

DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-009			SHEET NO.	009





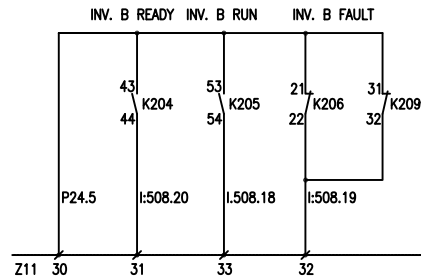
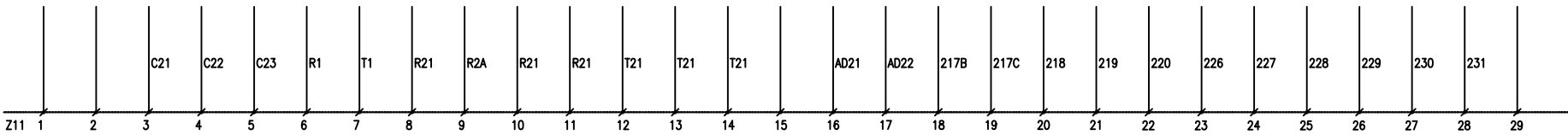
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



TITLE INVERTER B PANEL  
SEQUENCE FOR DIAGRAM

PROJECT ID FAN

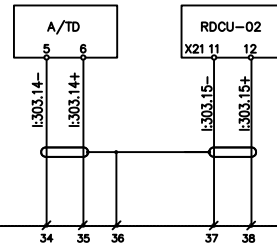
DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-010			SHEET NO.	010



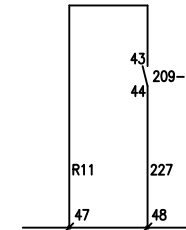
TO : SCR PLC

CURRENT OUTPUT  
0~800A/4~20mA

FREQUENCY OUTPUT  
0~60HZ/4~20mA



OVER TEMP' FAULT



TO : INVERTER A PANEL

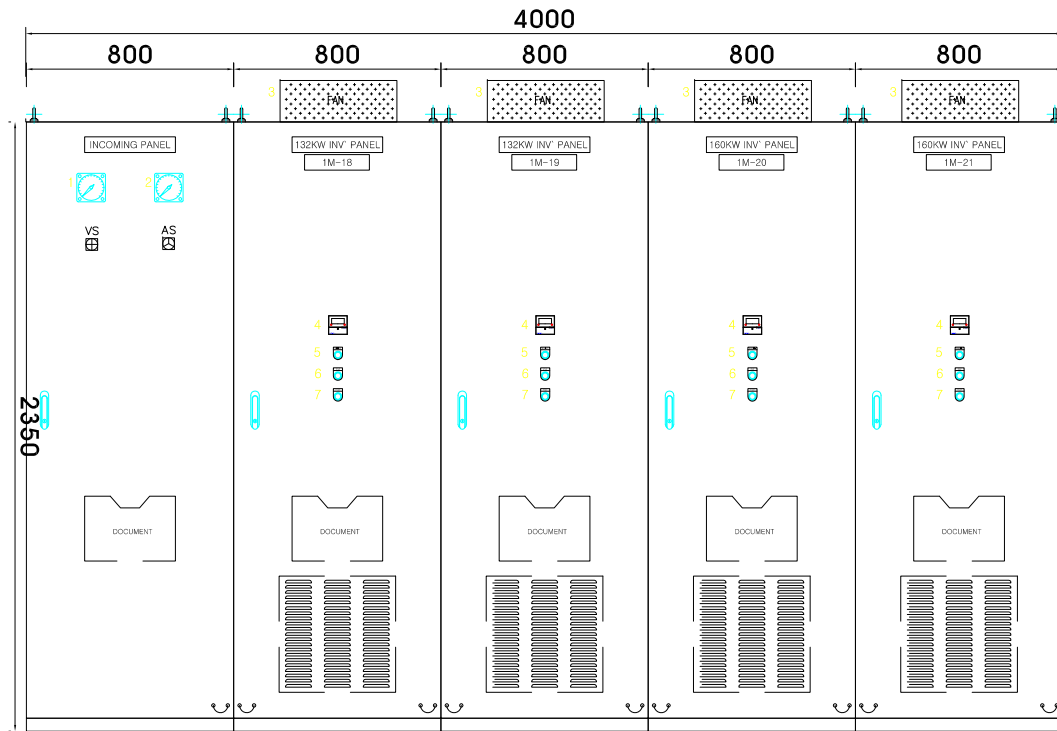
△			
△			
△			
△	FOR APPROVAL	Y.A.GOO	'11.09.05
SYM	REVISIONS RECORD	REVISER	DATE



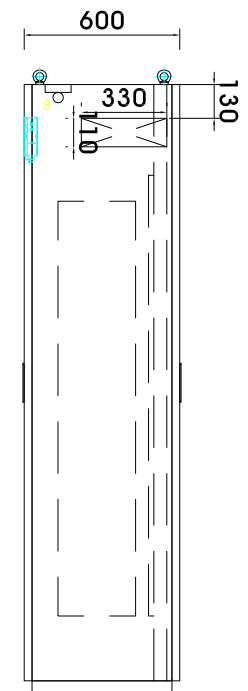
TITLE INVERTER B PANEL  
SEQUENCE FOR DIAGRAM

PROJECT ID FAN

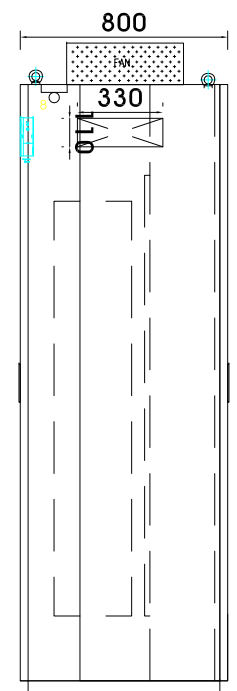
DRAWING	DESIGN	CHECKED	APPROVED	SCALE	DATE
J.M.LEE	K.S.SON	D.S.AN	Y.A.GOO	None	2011.09.05
DRAWING NO.	HWHCHGI-SCR-INV-011			SHEET NO.	011



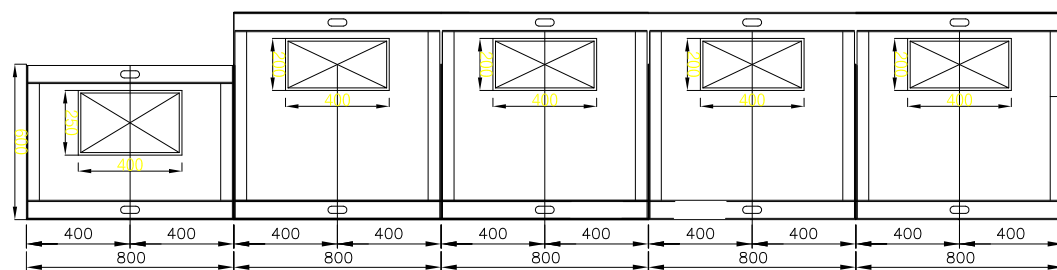
**FRONT VIEW**



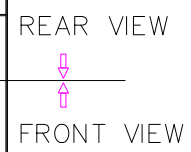
**SIDE VIEW  
MAIN**



**SIDE VIEW  
INVERTER**



**BOTTOM VIEW**



**REAR VIEW**

**FRONT VIEW**

**LEGEND :**

번호	품명	규격	수량	모델	메이커
1	VOLT METER	110*110	1 개	WA-V2	KYONGBO
2	CURRENT METER	110*110	1 개	WA-A2	KYONGBO
3	EXHAUST FAN	250*250	4 개	MV-101	MANSEONG
4	디지털 전류계	72*72	4 개	EOCR-FMZ	SAMHWA
5	P.B.L (LED)	φ25 AC220V (R)	4 개	KH-512L	KOINO
6	P.B.L (LED)	φ25 AC220V (G)	4 개	KH-512L	KOINO
7	P.B.L (LED)	φ25 AC220V (Y)	4 개	KH-512L	KOINO
8	LIGHT	AC220V 20W	4 개	RFL-20	RUN ELEC.
9					

**\* REMARKS**

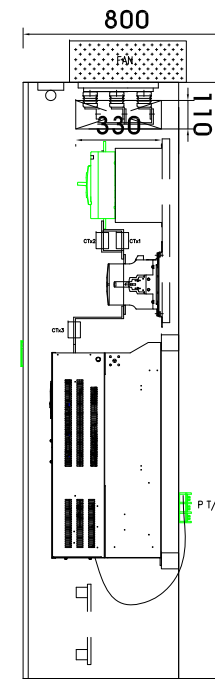
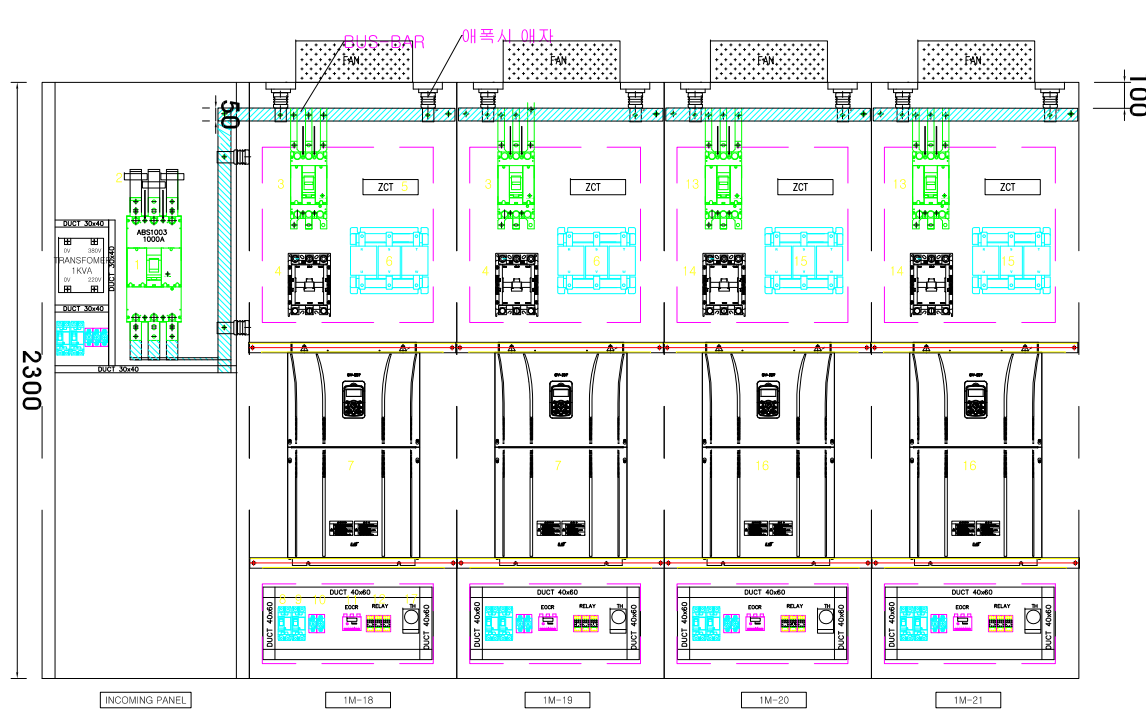
1. BASE SIZE : 800W\*600(800)D\*2350H
2. BASE MATERIAL : 75\*50 CHANNEL
3. APPLICATION : MAIN MCCB & INVERTER PANEL
4. PAINTING : MUNCCELL NO.: EX-4504(S) 5Y7/1

DATE	APPROVAED BY	CHECKED BY	DRAWING BY



**(주) 호원아이엔씨**  
HOWON Instrument & control Co., Ltd.

PROJECT :	CUSTOMER :
TITLE : <b>INVERTER PANEL - LAYOUT</b>	DWG NO. :

INNER VIEW

SIDE VIEW

LEGEND :

번호	품명	규격	수량	메이커
1	MCCB	ABS1003a 1000AT	1 개	LSIS
2	C.T	US-3 1000A 40VA	3 개	KYONGBO
3	MCCB	ABS 403/300A	2 개	LSIS
4	MAGNET	MC-265a AC220V	2 개	LSIS
5	Z.C.T	SR-3CT-400	2 개	SAMHWA
6	REACTOR	WYACR-132	2 개	WYES
7	INVERTER	SV 1320IS7-4SOD 132KW	2 개	LSIS
8	MCCB (조작용)	ABS 32/20A	2 개	
9	MCCB (전동용)	ABS 32/20A	2 개	LSIS
10	FUSE	KF-30L	3 개	KACON

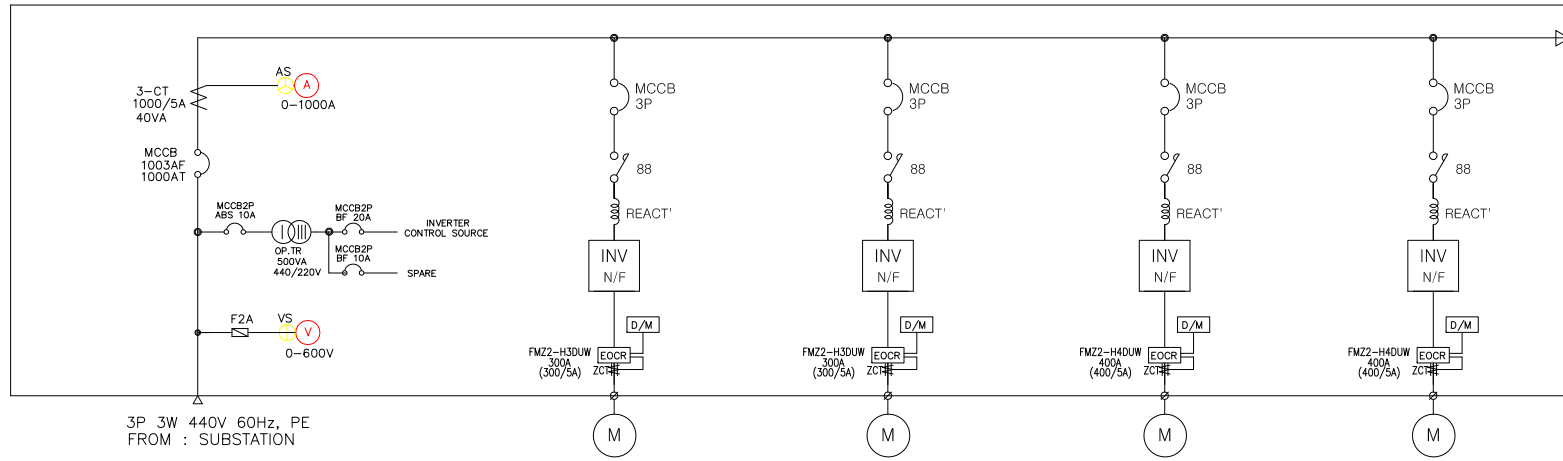
번호	품명	규격	수량	메이커
11	EOCR	EOCR-FMZ2	4 개	SAMHWA
12	RELAY	HR705-4PL	12 개	KACON
13	MCCB	ABS 403/400A	2 개	LSIS
14	MAGNET	MC-400a AC220V	2 개	LSIS
15	REACTOR	WYACR-160	2 개	WYES
16	INVERTER	SV 1600IS7-4SOD 160KW	2 개	LSIS
17	THEMO START	90°C 1A1B	4 개	KACON

DATE	APPROVAED BY	CHECKED BY	DRAWING BY



(주) 호원아이엔씨  
HOWON Instrument & control Co., Ltd.

PROJECT :	CUSTOMER :
TITLE : INVERTER PANEL - INNER VIEW	DWG NO. :



3P 3W 440V 60Hz, PE  
FROM : SUBSTATION

ITEM NO	MAIN	INV-01	INV-02	INV-03	INV-04
SERVICE		AGITATOR (AGT-0001)	AGITATOR (AGT-0002)	AGITATOR (AGT-0003)	AGITATOR (AGT-0004)
LOAD CAPACITY (KW)	584KW	132KW	132KW	160KW	160KW
MCCB AF/AT	1000/1000	400/300	400/300	400/400	400/400
MAGNETIC CONTACTOR	MCM(88,LOW)	MC-265a	MC-265a	MC-400a	MC-400a
	MCR(88)	-	-	-	-
	MCD(19,HIGH)	-	-	-	-
	MCY(9,HIGH)	-	-	-	-
EOCR		FMZ2-H3DUW	FMZ2-H3DUW	FMZ2-H3DUW	FMZ2-H3DUW
ZCT		110Ø	110Ø	110Ø	110Ø
AM		-	-	-	-
POWER TB (A)		3P 400A	3P 400A	3P 400A	3P 400A
POWER WIRE (Sq)		70	70	90	90
OP TR (VA)		-	-	-	-
PBL / PL		0 / 3	0 / 3	0 / 3	0 / 3
Aux Relay(MY4 4a4b)/TIMER		3	3	3	3
SEQUENCE TYPE		O	O	O	O
DOOR TYPE		-	-	-	-
LOP PANEL TYPE		G	G	G	G
OTHER'S		INV,Reactor:132KW SV-1320IS7-4SOD(50HZ)	INV,Reactor:132KW SV-1320IS7-4SOD(50HZ)	INV,Reactor:160KW SV-1600IS7-4SOD(50HZ)	INV,Reactor:160KW SV-1600IS7-4SOD(50HZ)

DATE APPROVAED BY CHECKED BY DRAWING BY



(주) 호원아이엔씨

HOWON Instrument & control Co., Ltd.

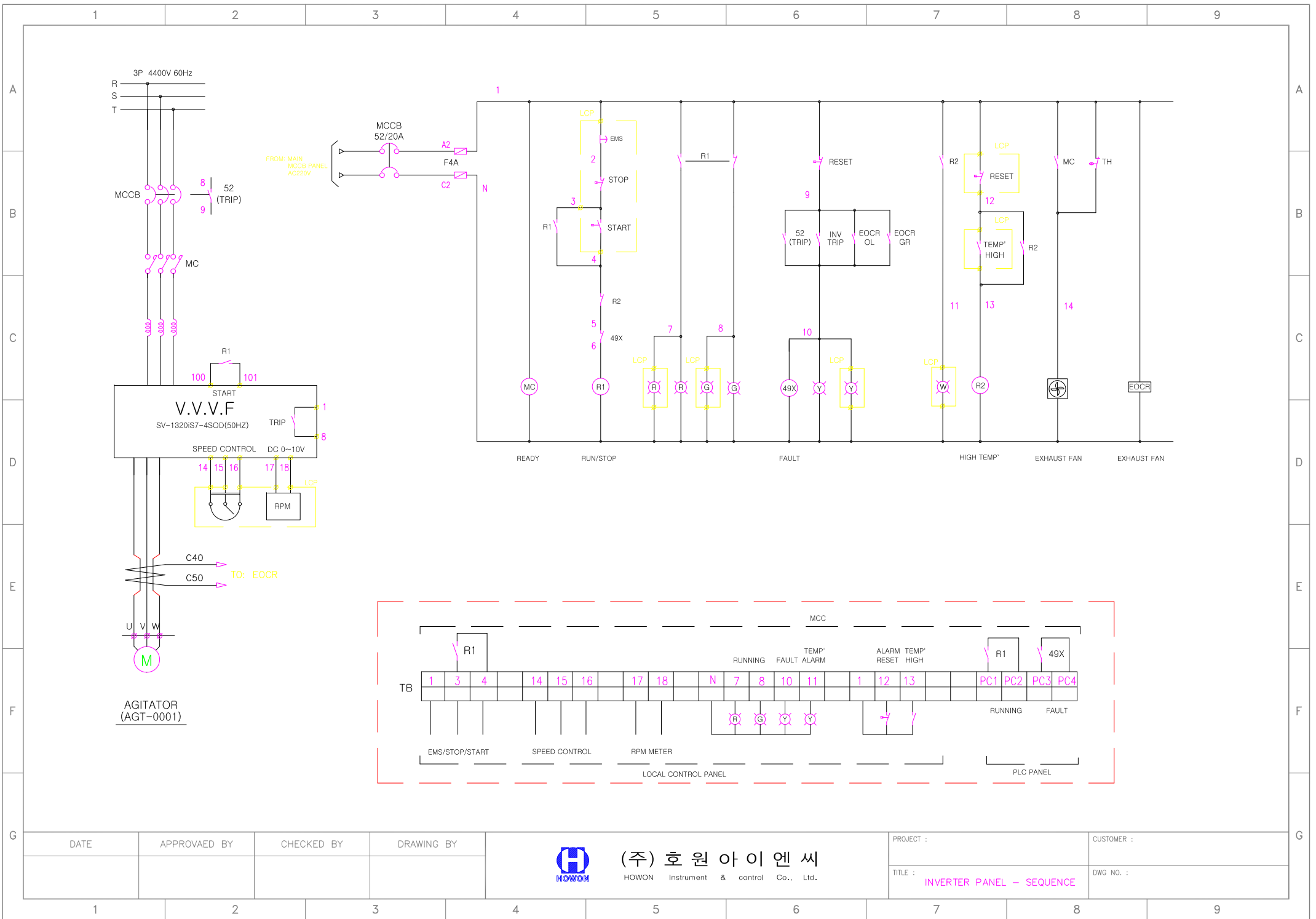
PROJECT :

CUSTOMER :

TITLE :

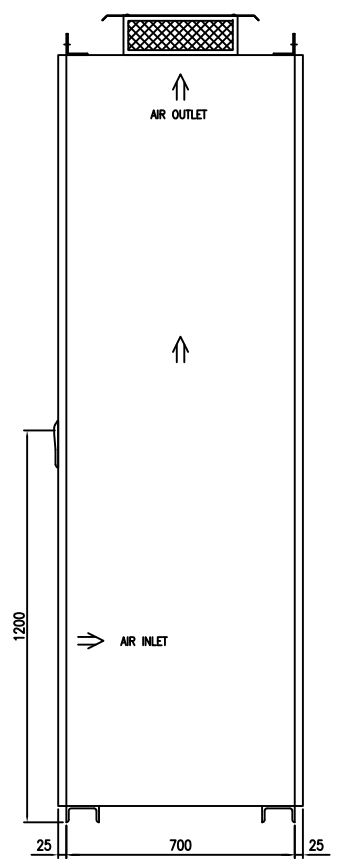
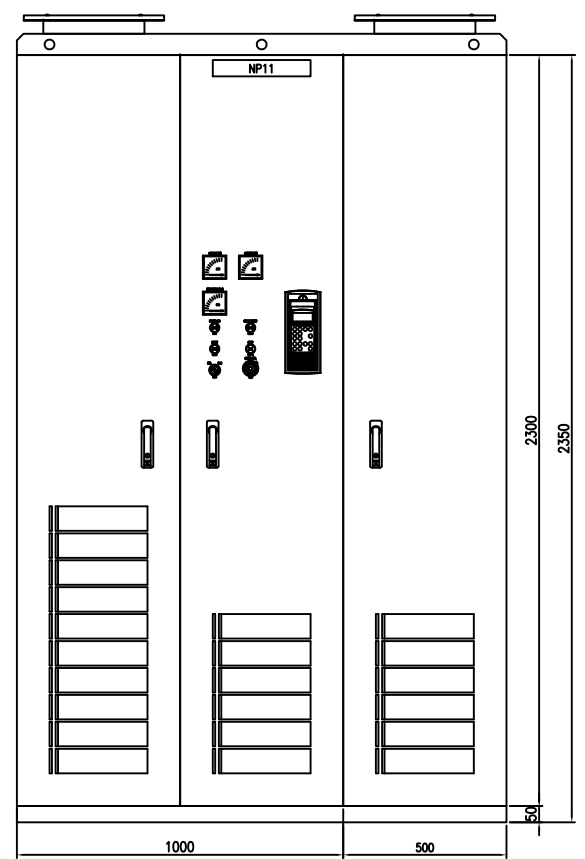
INVERTER PANEL - SINGLE LINE

DWG NO. :



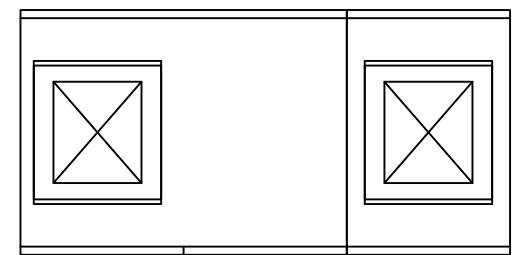
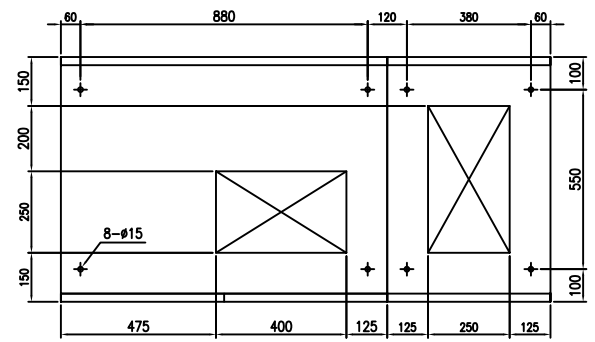
STANDARD	DWG. NO.	SHEET NO.
PREPARED	CHECKED	APPROVED
CHECKED	APPROVED	CONT. NO.
APPROVED	CONT. NO.	

This document must not be copied without our written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose. Continuation will be recommended.



SPECIFICATION

TYPE	SELF STANDING		
COLOR	EXT	RAL7032 EMBOSSING	
	INT	RAL 7032 EMBOSSING	
MATERIAL	STEEL		
DOOR	2.3t	TOP	2.3t
SIDE	1.6t	BOTTOM	2.3t
CLASS	IP 20		



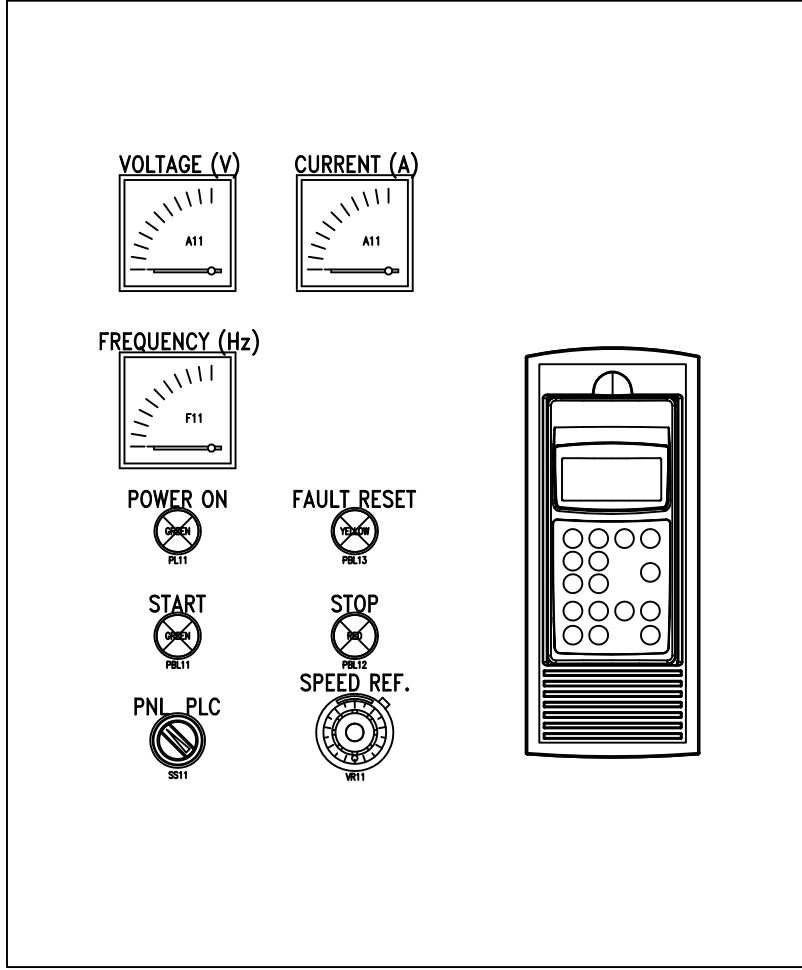
TOP VIEW

DATE : 2005. 03. 16

3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.	
2			350kW ID FAN ACS800-04M-0490-7	YANG		KIM	LAYOUT DRAWING	ATDM-050197	101	
1				G.B		Y.D			CONT. NO.	
REV. NO	DATE	REVISION DESCRIPTION					ABB KOREA Ltd.	THIRD ANGLE PROJECTION	SCALE 1/10	102

A4 (297x210)

STANDARD	
DWG. NO.	
PREPARED	
CHECKED	
APPROVED	
CONT. NO.	
SHEET NO.	



This document must not be copied without our written permission, and the contents thereof must not be imported to a third party nor be used for any unauthorized purpose. convention will be proscribed ABB.

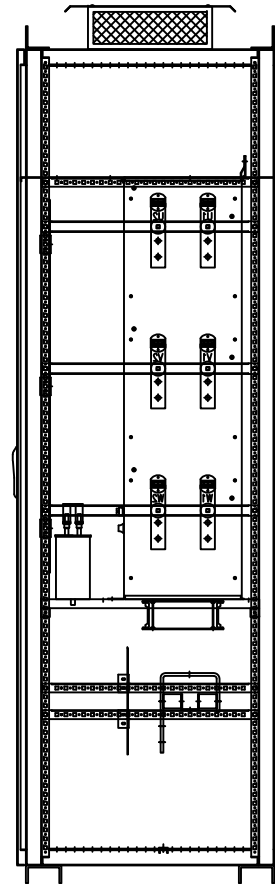
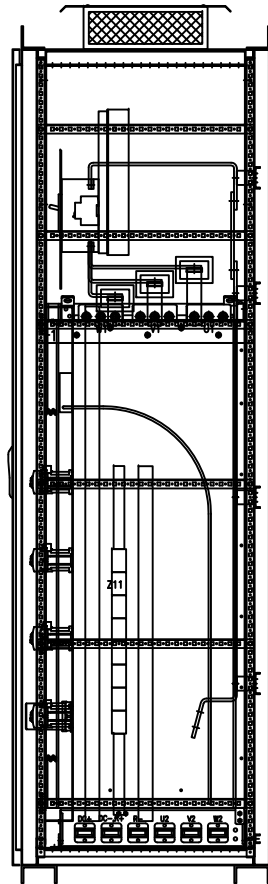
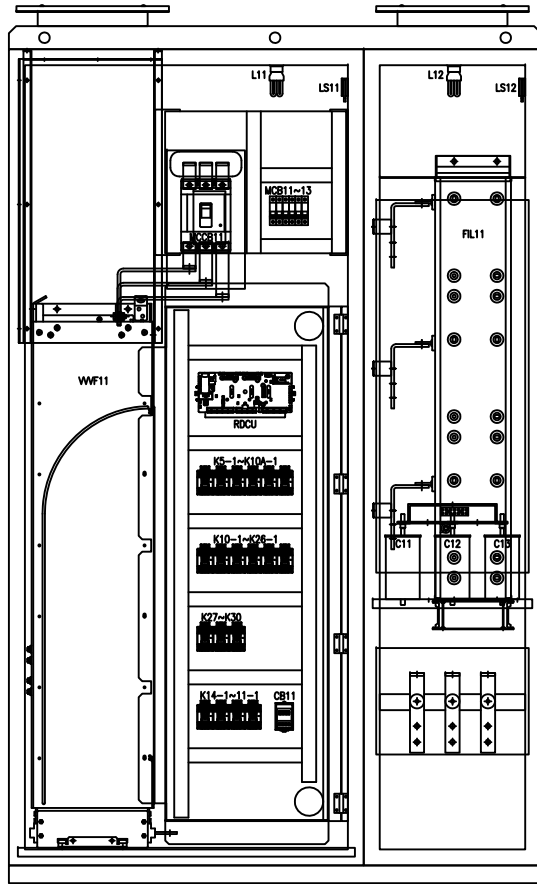
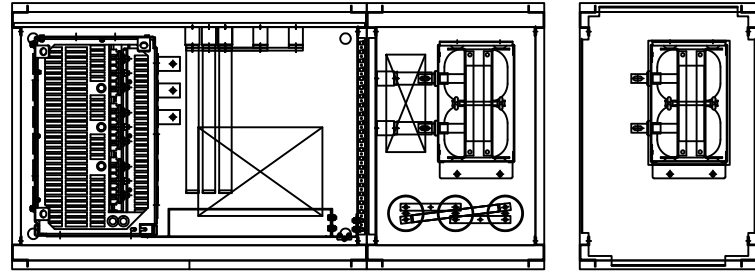
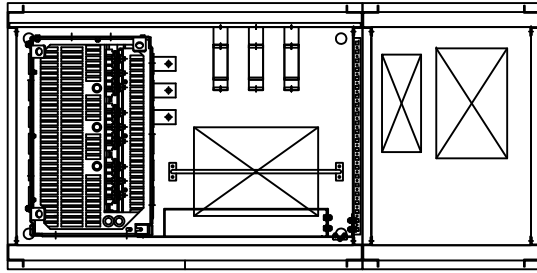
B  
C  
D

DATE : 2005. 03. 16

3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.
2			350kW ID FAN ACS800-04M-0490-7	YANG G.B		KIM Y.D	DOOR CONTROL PART	ATDM-050197	102
1							ABB ABB KOREA Ltd.		103
REV. NO	DATE	REVISION DESCRIPTION						THIRD ANGLE PROJECTION	SCALE 1/10



STANDARD	Dwg. NO.	SHEET NO.
PREPARED		
CHECKED		
APPROVED	CONT. NO.	



This document must not be copied without  
 the written permission, and the contents  
 shall not be used for any unauthorized purpose.  
 Contribution will be presented ABB.

DATE : 2005. 03. 16

3		
2		
1		
REV. NO	DATE	REVISION DESCRIPTION

PROJECT	350kW ID FAN ACS800-04M-0490-7
---------	-----------------------------------

PREPARED	CHECKED	APPROVED	TITLE
YANG G.B		KIM Y.D	APPARATUS LAYOUT

ABB ABB KOREA Ltd.	
--------------------	--

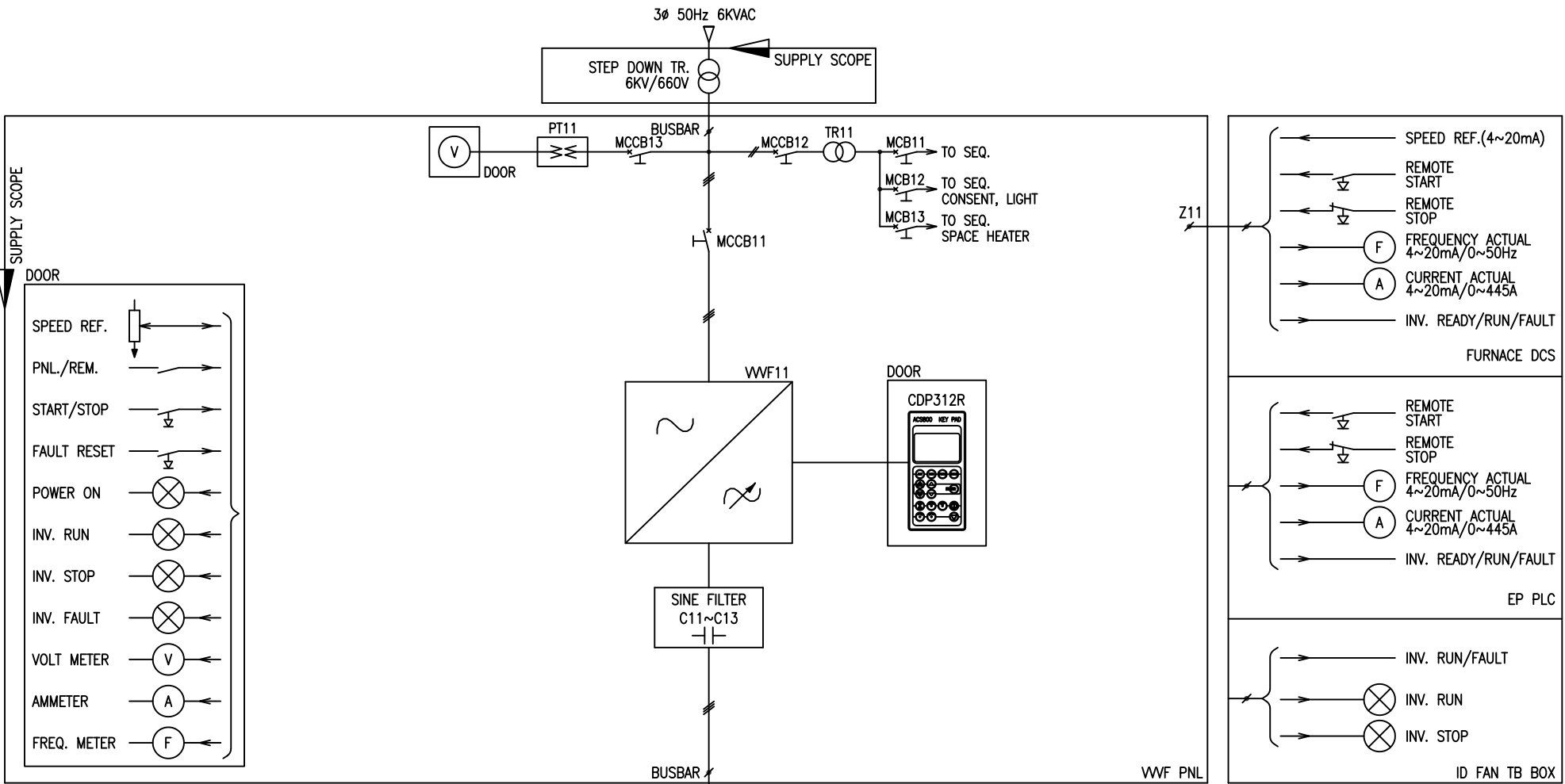
DWG. NO.	ATDM-050197
THIRD ANGLE PROJECTION	SCALE 1/10

SHEET NO.	103
CONT. NO.	104

A4 (297x210)

STANDARD
DWG. NO.
PREPARED
CHECKED
APPROVED
SHEET NO.
CONT. NO.

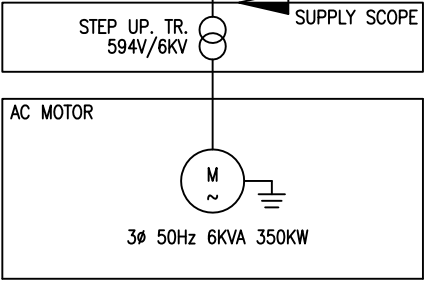
This document must not be copied without our written permission, and the contents thereof must not be imported to a third party for use for any unauthorized purpose. Convention will be proceeded ABL.



**\* CABLE SELECTION TABLE**

NO	UNIT TYPE	SQUARE TORQ. LOAD	
		POWER	EARTH
u	ACS800-04-0490-7	HKIV 150 <sup>3</sup> x 2P BLK	HKIV 60 <sup>3</sup> YLW/GRN

\* POWER CABLE TUBE COLOR: R(YLW), S(GRN), T(RED), DC+(RED), DC-(BLUE)  
 \* FOR TR & CT, PT : HKIV 2<sup>3</sup> BLK  
 \* SHIELD : CW-SB 0.75<sup>3</sup>  
 \* FOR TR & CT, PT : HKIV 2<sup>3</sup> BLK, H(RED), N(WHT)  
 \* TR EARTH : HKIV 2<sup>3</sup> YLW/GRN  
 \* CONTROL : HKIV 2<sup>3</sup> YLW, AC(RED/WHT), DC(+:RED, -: BLUE)  
 \* Applied inside cubicle only in the general application.

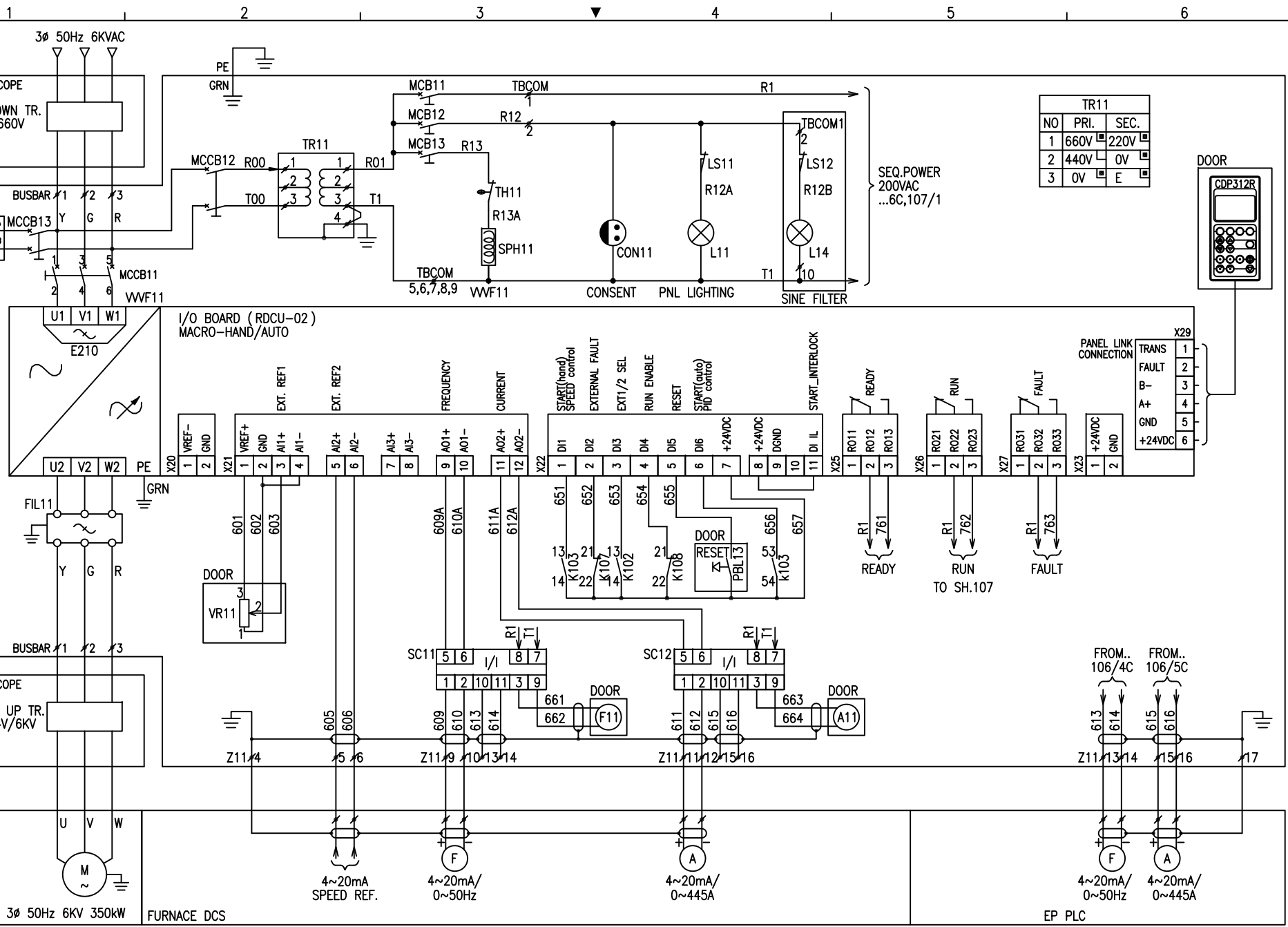


DATE : 2005. 03. 16

3		PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.
2		350kW ID FAN ACS800-04M-0490-7	YANG		KIM	ONE-LINE DIAGRAM	ATDM-050197	105
1			G.B.		Y.D.	ABB ABB KOREA Ltd.	THIRD ANGLE PROJECTION	SCALE NON
REV. NO	DATE	REVISION DESCRIPTION						

A4 (297x210)

STANDARD	DWG. NO.
PREPARED	CHECKED
APPROVED	CONT. NO.
SHEET NO.	



TR11		
NO	PRI.	SEC.
1	660V	220V
2	440V	0V
3	0V	E

This document must not be copied without our written permission, and the contents thereof may not be used for any unauthorized purpose. Invention will be prosecuted ABB.

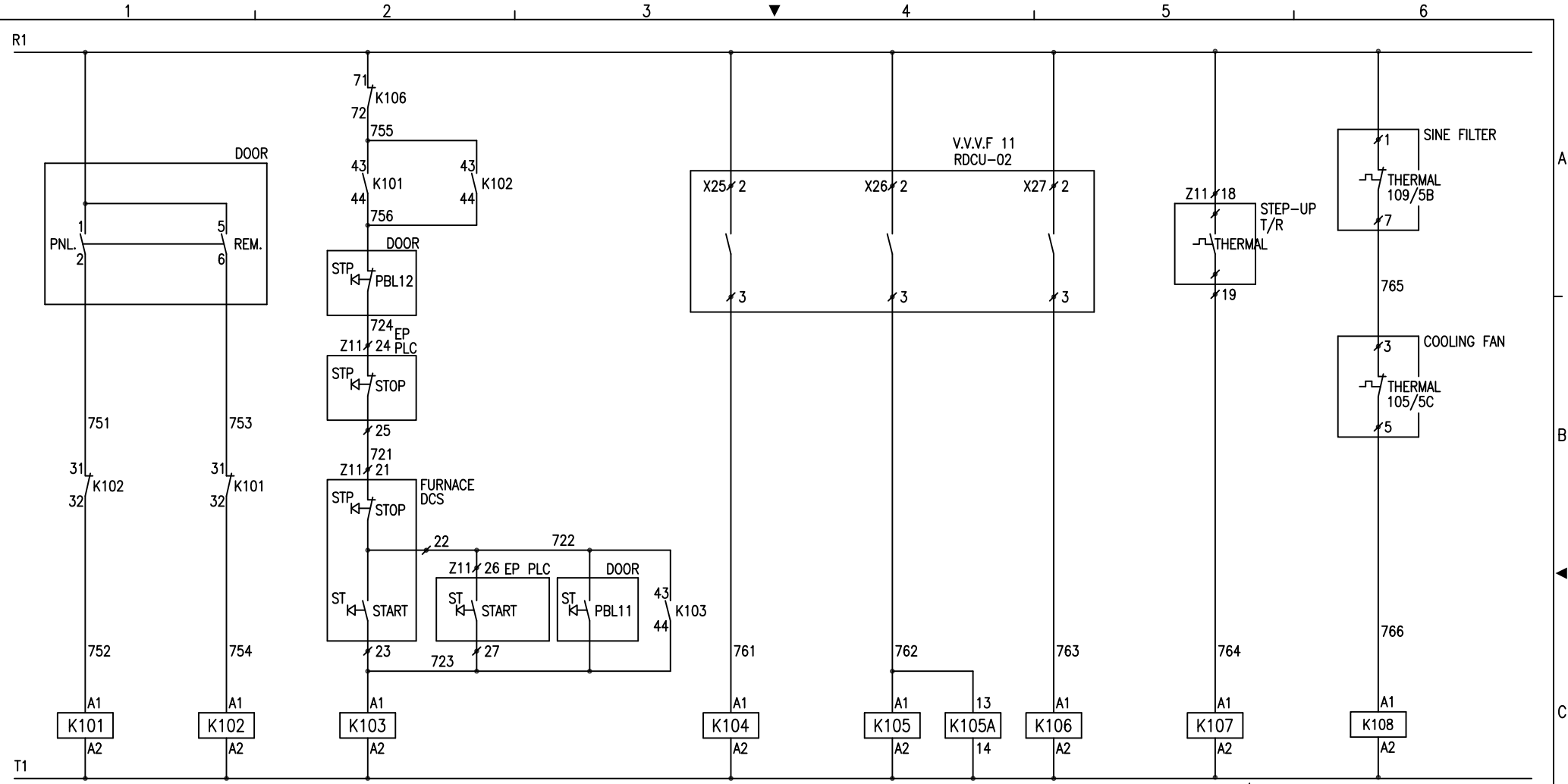
DATE : 2005. 03. 16

3		PROJECT	350kW ID FAN ACS800-04M-0490-7	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.
2				YANG G.B		KIM Y.D	SCHMATIC DIAGRAM	ATDM-050197	106
1							ABB ABB KOREA Ltd.	THIRD ANGLE PROJECTION	CONT. NO.
REV. NO	DATE	REVISION DESCRIPTION						SCALE	NON

A4 (297x210)

STANDARD	DWG. NO.
PREPARED	
CHECKED	
APPROVED	
CONT. NO.	SHEET NO.

This document must not be copied without our written permission, and the contents thereof must not be imported to a third party without our prior written consent. Any reproduction or use of this document without our prior written consent will be prosecuted.



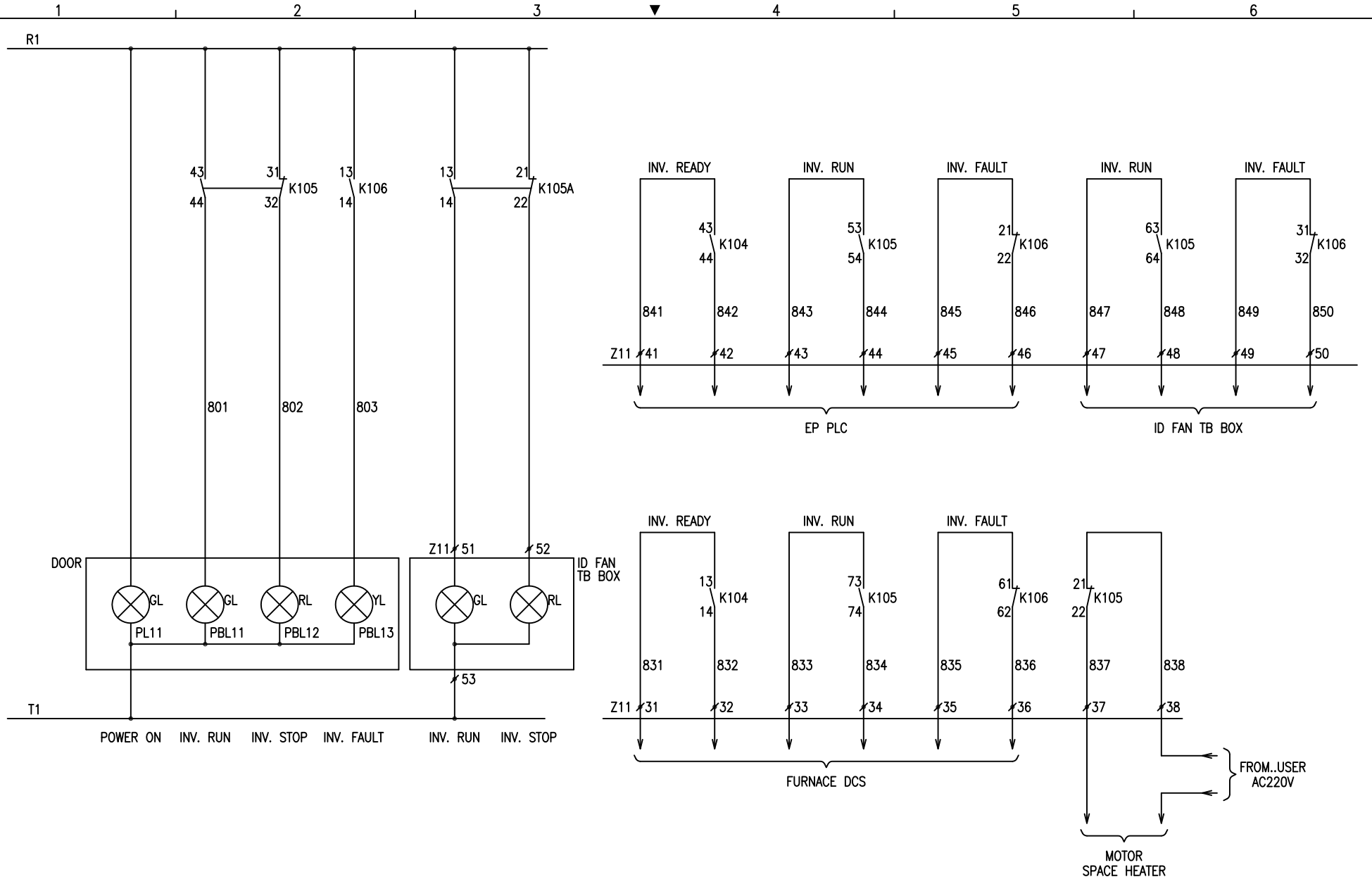
K101	K102	K103	K104	K105	K105A	K106	K107	K108
13-14	13-14, 106/4C	13-14, 106/4C	13-14, 108/4C	13-14	13-14, 108/3A	13-14, 108/2A	13-14	13-14, 109/1B
21-22	21-22	21-22	21-22	21-22, 108/5C	21-22, 108/3A	21-22, 108/5A	21-22, 106/4C	21-22, 106/4C
31-32	31-32, 107/1B	31-32	31-32	31-32, 108/2A	31-32	31-32, 108/6A	31-32	31-32
43-44	43-44, 107/3A	43-44, 107/4C	43-44, 108/4A	43-44, 108/2A	43-44	43-44	43-44	43-44
53-54	53-54	53-54, 106/5C	53-54	53-54, 108/4A	53-54, 109/6A	53-54	53-54	53-54
63-64	63-64	63-64	63-64	63-64, 108/6A	63-64	63-64	63-64	63-64
				73-74, 108/4C		61-62, 108/5C		
				83-84, 109/4A		71-72, 107/3A		
						83-84		

DATE : 2005. 03. 16

3		PROJECT HANKUK ELECTRIC GLASS 350kW ID FAN ACS800-04M-0490-7	PREPARED	CHECKED	APPROVED	TITLE SEQUENCE DIAGRAM <b>ABB</b> ABB KOREA Ltd.	DWG. NO. ATDM-050197		SHEET NO. 107
2			YANG G.B		KIM Y.D		THIRD ANGLE PROJECTION	SCALE NON	CONT. NO. 108
1									
REV. NO	DATE	REVISION DESCRIPTION							

A4 (297X210)

STANDARD	DWG. NO.	SHEET NO.
PREPARED		
CHECKED		
APPROVED		
CONT. NO.		



This document must not be copied without our written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose. Invention will be prosecuted ABB.

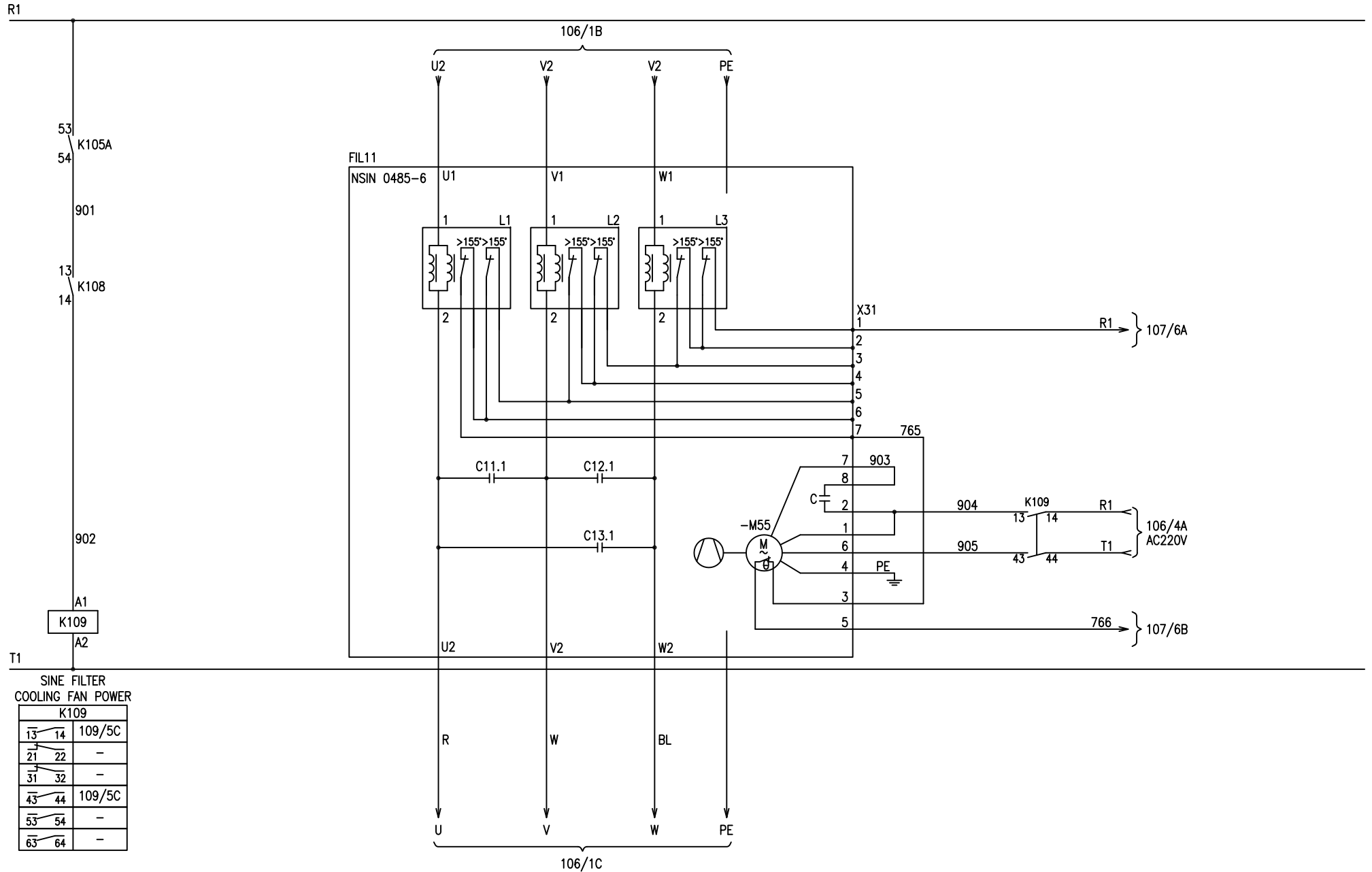
DATE : 2005. 03. 16

3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.	
2			350kW ID FAN ACS800-04M-0490-7	YANG G.B		KIM Y.D	SEQUENCE DIAGRAM	ATDM-050197	108	
1									CONT. NO.	
REV. NO	DATE	REVISION DESCRIPTION					ABB ABB KOREA Ltd.	THIRD ANGLE PROJECTION	SCALE NON	109

A4 (297x210)

STANDARD	DWG. NO.	SHEET NO.
PREPARED	CHECKED	APPROVED
CHECKED	APPROVED	CONT. NO.

This document must not be copied without our written permission, and the contents thereof must not be imported to a third party nor be used for any unauthorized purpose. contravention will be prosecuted ABB.



SINE FILTER  
COOLING FAN POWER

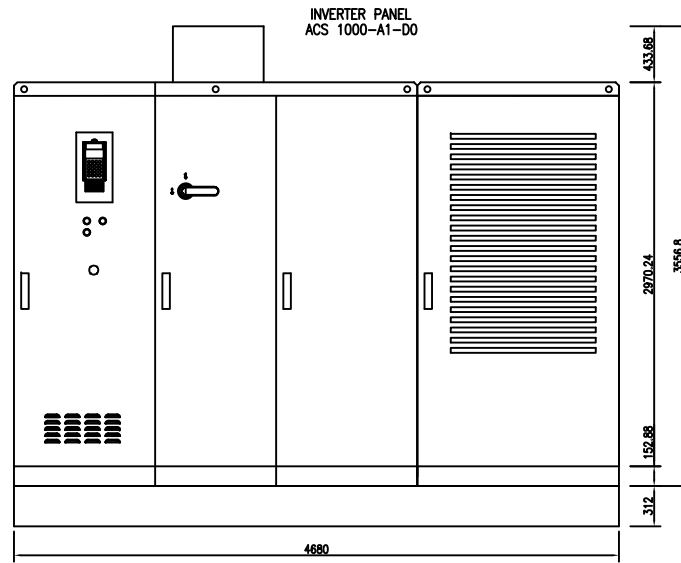
K109		
13	14	109/5C
21	22	-
31	32	-
43	44	109/5C
53	54	-
63	64	-

DATE : 2005. 03. 16

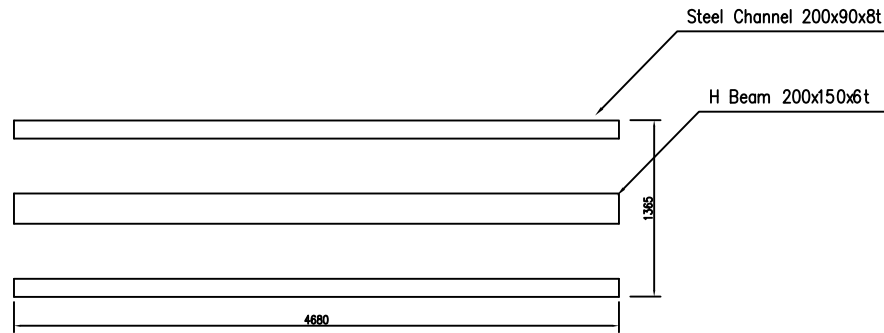
3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.	
2			350kW ID FAN ACS800-04M-0490-7	YANG G.B		KIM Y.D	SEQUENCE DIAGRAM	ATDM-050197	109	
1									CONT. NO.	
REV. NO	DATE	REVISION DESCRIPTION					ABB ABB KOREA Ltd.	THIRD ANGLE PROJECTION	SCALE NON	-

A4 (297x210)

STANDARD	
DWG. NO.	
PREPARED	
CHECKED	
APPROVED	
SHEET NO.	CONT. NO.



FRONT VIEW



BOTTOM VIEW

This document must not be copied without our written permission, and the contents thereof must not be imported to a third party nor be used for any unauthorized purpose. Confirvention will be prosecuted ABB.

DATE :

3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.
2			350kW ID FAN ACS800-04M-0490-7	YANG		KIM	PANEL SUPPORT		
1				G.B		Y.D	<b>ABB</b> ABB KOREA Ltd.	THIRD ANGLE PROJECTION	SCALE
REV. NO	DATE	REVISION DESCRIPTION							

1

2

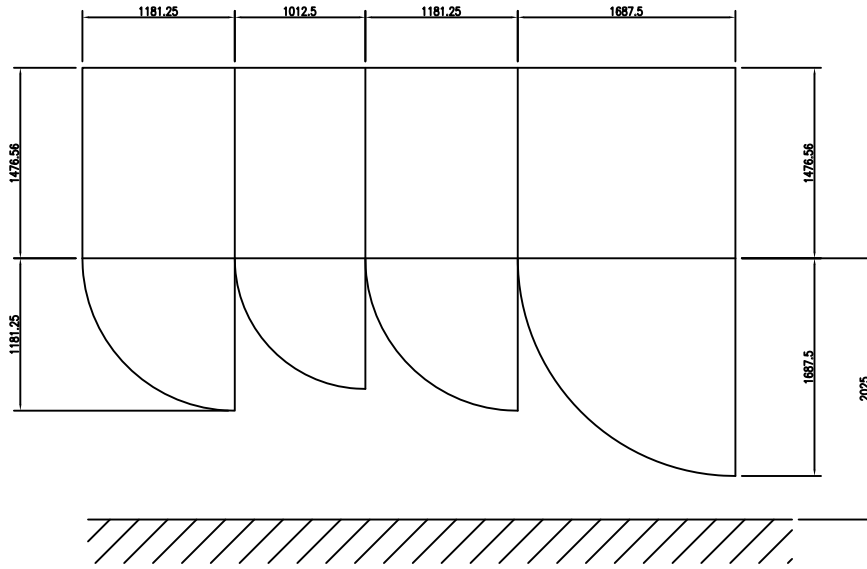
3

4

5

6

STANDARD	
DWG. NO.	SHEET NO.
PREPARED	
CHECKED	
APPROVED	CONT. NO.



NOTE :  
 ABOVE SPACE REQUIREMENTS : 500mm from Cooling Fan Box

INVERTER TOP VIEW

This document must not be copied without our written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose. Contrivention will be prosecuted ABB.

DATE :

3			PROJECT	PREPARED	CHECKED	APPROVED	TITLE	DWG. NO.	SHEET NO.	
2			350kW ID FAN ACS800-04M-0490-7	YANG G.B		KIM Y.D	POSITION LAYOUT	THIRD ANGLE PROJECTION	SCALE	
1							ABB ABB KOREA Ltd.			CONT. NO.
REV. NO	DATE	REVISION DESCRIPTION								

1

2

3

4

5

6

A4 (297x210)