

CUST. NAME: CARRIER CORPORATION
PROJECT NO.: CHILLER CONTROLLER STANDARDS
P.O. NUMBER:
DESCRIPTION: HX7+D460~93KCB1ISM 578~1038RLA
HX7+D410LCB1ISM 1039~1114RLA
460V, 3ø, 60Hz, 600~1000kVA
TYPE 1 ENCLOSURE w/ISM MODULE
UL LISTED

☒ FINAL

☐ PRELIMINARY

☐ FOR APPROVAL

Note: Final Engineering
and Manufacturing will
proceed upon receipt of
final approval

- ☐ NOT APPROVED AS NOTED – RESUBMIT DRAWINGS FOR APPROVAL. DO NOT PROCEED WITH FINAL ENGINEERING OR MANUFACTURING.
- ☐ APPROVED AS NOTED – PROCEED WITH FINAL ENGINEERING AND MANUFACTURING.
- ☐ APPROVED AS SUBMITTED – PROCEED WITH FINAL ENGINEERING AND MANUFACTURING.

APPROVAL BY:

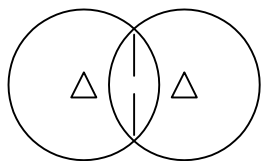
Initial

Date

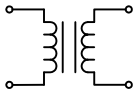
NO	DRAWING NO	REV	DRAWING DESCRIPTION
00	I808R600	0	DRAWING LIST
01	----	--	-----
02	I808R602	0	DRAWING LEGEND
03	----	--	-----
04	----	--	-----
05	I808R605	0	EQUIPMENT RATINGS – 578~907RLA (600~815kVA)
06	I808R606	0	EQUIPMENT RATINGS – 908~1114RLA (932~1000kVA)
07	----	--	-----
08	I808R608	0	THREE–LINE DIAGRAM
09	I808R609	0	MAIN CIRCUIT – AC IN/DC BUS
10	I808R610	0	MAIN CIRCUIT – DC BUS/AC OUT
11	----	--	-----
12	I808R612	0	MAIN CIRCUIT DETAIL – INVERTER
13	----	--	-----
14	----	--	-----
15	----	--	-----

NO	DRAWING NO	REV	DRAWING DESCRIPTION
16	----	--	-----
17	----	--	-----
18	I808R618	0	LOGIC INTERFACE CIRCUIT
19	----	--	-----
20	I808R620	0	CONTROL CIRCUIT
21	I808R621	0	CONTROL CIRCUIT – TEMPERATURE CONTROL
22	----	--	-----
23	----	--	-----
24	I808R624	0	ISM MODULE IINTERFACE
25	----	--	-----
26	----	--	-----
27	----	--	-----
28	----	--	-----
29	I808R629	0	PCB INTERCONNECTIONS
30	I808R630	0	ENCLOSURE OUTLINE W/ZCT OPTION
31	I808R631	0	ENCLOSURE OUTLINE

4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: DRAWING LIST – 578~1114RLA 600~1000kVA, HX7+D 460V		REVISION: 0	SCALE:
3										
2							DRAWING NUMBER: I808R600			
1										
0	03/27/14	FIRST ISSUE	EYANG	SE	RKR		CUSTOMER:	PROJECT NUMBER:		
REV	DATE	DESCRIPTION	BY	CHK	APPR					



POWER TRANSFORMER



CONTROL POWER OR
POTENTIAL TRANSFORMER



CURRENT TRANSFORMER



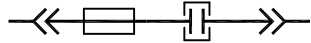
REACTOR



LIGHTNING ARRESTOR



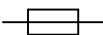
CIRCUIT BREAKER



FUSED VACUUM
DRAWOUT CONTACTOR



AIR CONTACTOR



FUSE



CAPACITOR



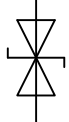
RESISTOR



DIODE



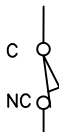
THYRISTOR



SURGE ABSORBER

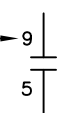


INSULATED GATE
BIPOLAR TRANSISTOR (IGBT)



LIMIT SWITCH

DENOTES ACTUAL
CONTACT USED



DEVICE NAME

N.O. CONTACT

DENOTES RELAY CAN BE FOUND
ON PAGE 12, COLUMN F



N.C. CONTACT



OFF-TIME DELAY CONTACT N.C.



OFF-TIME DELAY CONTACT N.O.



ON-TIME DELAY CONTACT N.C.



ON-TIME DELAY CONTACT N.O.



THERMAL SWITCH N.C.



RELAY COIL

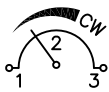
NAME	
a	b 11B
a	b
a	b
a	b
a	b
MODEL #	

DENOTES b - CONTACT, USED ON
PAGE 11, COLUMN B

--- DENOTES CONTACTS UNAVAILABLE

a - DENOTES NORMALLY OPEN
b - DENOTES NORMALLY CLOSED

DEVICE LEGEND



POTENTIOMETER



SELECTOR SWITCH



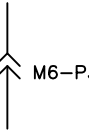
N.C. PUSH BUTTON



N.O. PUSH BUTTON

⊕ TB-10

CONTROL TERMINAL BLOCK



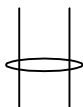
PLUG/CONNECTOR ASSEMBLY



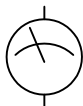
GROUND



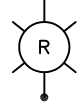
TWISTED WIRE



SHIELDED WIRE



METER



ILLUMINATED PUSH BUTTON
OR INDICATING LIGHT
(LETTER = COLOR)



COOLING FAN

LEGEND

ACL AC LINE REACTOR
A/C AIR CONDITIONER
AM AMMETER
AS AMMETER SWITCH
ASD ADJUSTABLE SPEED DRIVE
CL CURRENT LIMITER
CPT CONTROL POWER TRANSFORMER
CT CURRENT TRANSFORMER
DBR DYNAMIC BRAKING RESISTOR
M AIR CONTACTOR
MCCB MOLDED CASE CIRCUIT BREAKER
MCP MOTOR CIRCUIT PROTECTOR
MOT MOTOR
OL THERMAL OVERLOAD
RFF RADIO FREQUENCY FILTER
VM VOLTMETER
VS VOLTMETER SWITCH
XFMR TRANSFORMER
ZCT GROUND FAULT CT

SYMBOL LEGEND

Ⓜ JUMPER
Ⓜ MECHANICAL INTERLOCK

HX7+ DRIVE MODEL NUMBER DEVELOPMENT

HX7+ D 4 60K CB1 ISM			
HX7+ SERIES DRIVE			
REVISION D			
RATED VOLTAGE 4 - 460VAC			
DRIVE RATING			
60K - 600kVA (722A)			
70K - 700kVA (842A)			
81K - 815kVA (980A)			
93K - 932kVA (1121A)			
10L - 1000kVA (1203A)			
ISM MODULE TYPE			
CONFIGURATION CB1 - NEMA 1, 6 PULSE			
AMBIENT TEMPERATURE			
WITH SINEWAVE FILTER		WITHOUT SINEWAVE FILTER	
40°C	50°C	40°C	50°C
	X		X
	X		X
	X		X
			X
			X

4					
3					
2					
1					
0	03/27/14	FIRST ISSUE	EY	SE	RKR
REV	DATE	DESCRIPTION	BY	CHK	APPR

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TITLE: DRAWING LEGEND - 578~1114RLA 600~1000kVA, HX7+D 460V		REVISION: 0	SCALE:
CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER: 1808R602	

RLA/kVA RANGE	
RLA	kVA
578~669	600
670~780	700
781~907	815
908~1038	932
1039~1114	1000

CT SELECTION TABLE (CT1~3)		
RLA	RATIO	CT OUTPUT RANGE
563~675	750:5	3.75~4.50A
676~720	800:5	4.22~4.50A
721~749	900:5	4.00~4.16A
750~900	1000:5	3.75~4.50A
901~1080	1200:5	3.75~4.50A
1081~1260	1400:5	3.86~4.50A

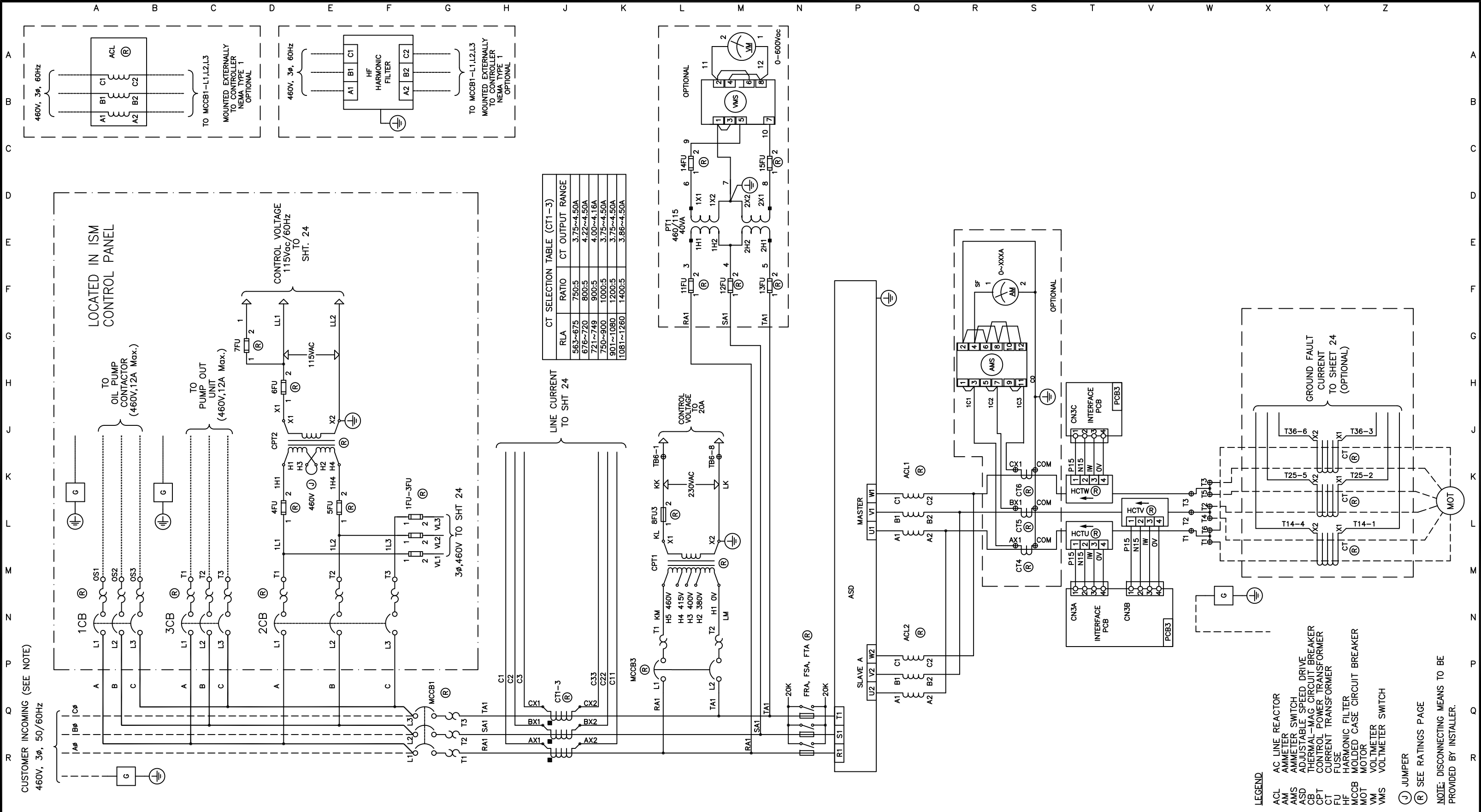
* OPTIONAL

PAGE No.	DEVICE	DESCRIPTION	600kVA, 460V, 722A, 669RLA		700kVA, 460V, 842A, 780RLA		815kVA, 460V, 980A, 907RLA		
			TYPE FORM	RATING	TYPE FORM	RATING	TYPE FORM	RATING	
8	MCCB1	MOLDED CASE SWITCH	PJL36000S80-RE10	600V, 800A, 3P, 65KAIC@480V	PJL36000S10-RE10	600V, 1000A, 3P, 65KAIC@480V	PJL36000S10-RE10	600V, 1000A, 3P, 65KAIC@480V	
	MCCB3	CPT1 PRIMARY CIRCUIT BRKR	SMS ED62B020	600V, 20A, 2P, 25KAIC@480V	SMS ED62B020	600V, 20A, 2P, 25KAIC@480V	SMS ED62B020	600V, 20A, 2P, 25KAIC@480V	
	8FU3	CPT1 SECONDARY FUSE	TRM 15	15A, 250V, TD, 10KAIC	TRM 15	15A, 250V, TD, 10KAIC	TRM 15	15A, 250V, TD, 10KAIC	
	FRA~FTA	SEMICONDUCTOR FUSE	A055URD32TTI1600	550V, 1600A (X3)	A055URD32TTI1600	550V, 1600A (X3)	A055URD32TTI1600	550V, 1600A (X3)	
	BFI	BLOWN FUSE INDICATOR	MS3V1-5BS	250V, 3A	MS3V1-5BS	250V, 3A	MS3V1-5BS	250V, 3A	
	CPT1	CNTL. PWR. TRANSFORMER	GT-F851	380/400/415/460:230V, 2kVA	GT-F851	380/400/415/460:230V, 2kVA	GT-F851	380/400/415/460:230V, 2kVA	
	ACL1, 2	OUTPUT LINE REACTOR	KLR360BCB	480V, 360A, 1.5%	KLR480BCB	480V, 480A, 1.5%	KLR480BCB	480V, 480A, 1.5%	
	HCTU~W	HALL CT	HAX-500-S/SP11C	725A:4V	HAX-850-S	850A:4V	HAX-1000-S	1000A:4V	
	1CB	OIL PUMP CIRCUIT BREAKER	HJL36015	600V, 15A	HJL36015	600V, 15A	HJL36015	600V, 15A	
	2CB	CONTROL CIRCUIT BREAKER	HJL36015	600V, 15A	HJL36015	600V, 15A	HJL36015	600V, 15A	
	3CB	PUMPOUT UNIT CIRCUIT BREAKER	HJL36015	600V, 15A	HJL36015	600V, 15A	HJL36015	600V, 15A	
	CPT2	CHILLER CNTL. PWR. TRANSFORMER	9070T3000D1	480:120V, 3kVA	9070T3000D1	480:120V, 3kVA	9070T3000D1	480:120V, 3kVA	
	1~3FU	CNTL. PWR. FUSE	ATM-5	600V, 5A	ATM-5	600V, 5A	ATM-5	600V, 5A	
	4,5FU	CNTL. PWR. FUSE	ATMR-15	600V, 15A	ATMR-15	600V, 15A	ATMR-15	600V, 15A	
	6FU	CNTL. PWR. FUSE	OTM-30	250V, 30A	OTM-30	250V, 30A	OTM-30	250V, 30A	
	7FU	CNTL. PWR. FUSE	OTM-10	250V, 10A	OTM-10	250V, 10A	OTM-10	250V, 10A	
	(*) 11~13FU	PT PRIMARY FUSE	ATQR 2/10	600V, 0.2A	ATQR 2/10	600V, 0.2A	ATQR 2/10	600V, 0.2A	
	(*) 14,15FU	PT SECONDARY FUSE	TRM 1/2	250V, 0.5A	TRM 1/2	250V, 0.5A	TRM 1/2	250V, 0.5A	
	CT1~3	LINE CURRENT TRANSFORMER	3P93-XXX	SEE TABLE	3P93-XXX	SEE TABLE	3P93-XXX	SEE TABLE	
	(*) CT4~6	AMMETER CT	3P668-XXX	----	3P668-XXX	----	3P668-XXX	----	
9	MS1	SOFT START CONTACTOR	LC1F400U7	400A, 600V, 3P	LC1F400U7	400A, 600V, 3P	LC1F400U7	400A, 600V, 3P	
	MS2	CAP DISCHARGE CONTACTOR	7001-5150-21	40A, 500VDC, 1P	7001-5150-21	40A, 500VDC, 1P	7001-5150-21	40A, 500VDC, 1P	
	OHAMB	T-STAT 90°C FIXED N.C.	OHD3-90B	90°C	OHD3-90B	90°C	OHD3-90B	90°C	
	OH1T~OH2T	T-STAT 75°C FIXED N.C.	OHD3-75B	75°C	OHD3-75B	75°C	OHD3-75B	75°C	
	OH1B~OH2B	T-STAT 90°C FIXED N.C.	OHD3-90B	90°C	OHD3-90B	90°C	OHD3-90B	90°C	
	THR1	HEATSINK THERMISTOR	590-32BP01-203	2KOHM @ 25 DEG C	590-32BP01-203	2KOHM @ 25 DEG C	590-32BP01-203	2KOHM @ 25 DEG C	
	R1	SOFT START RESISTOR	WR33	0.67 OHM, 300W, 2S	WR33	0.67 OHM, 300W, 2S	WR33	0.67 OHM, 300W, 2S	
	R2	CAP DISCHARGE RESISTOR	SXR2-500	500 OHM, 300W, 3S	SXR2-500	500 OHM, 300W, 3S	SXR2-500	500 OHM, 300W, 3S	
	REC1~6A,M	DIODE PACK	DD260N16K	1600V, 260A (X12)	DD260N16K	1600V, 260A (X12)	DD260N16K	1600V, 260A (X12)	
	SA1~SA3	SURGE SUPPRESSOR	B40K550	550V, 3000J	B40K550	550V, 3000J	B40K550	550V, 3000J	
	DCL	DC LINK REACTOR	PC34180P501	926A, .052mH	PC34180P601	1111A, .043mH	PC34180P701	1297A, .037mH	
	9R1~9R4	RESISTOR	RS-10	30KOHM, 10W	RS-10	30KOHM, 10W	RS-10	30KOHM, 10W	
	9C1	CAPACITOR	26F7502	4uF, 1500V	26F7502	4uF, 1500V	26F7502	4uF, 1500V	
	10, 12	HCTA	HALL CT	HEC-05A(AMO)	500A:4V	HEC-05A(AMO)	500A:4V	HEC-07A(AMO)	677A:4V
		CA	CAPACITOR	HCGF5AS2G123YQ	12kUF, 400VDC (3P/2S)	HCGF5AS2G123YQ	12kUF,400VDC(3P/2S)	HCGF5AS2G123YQ	12kUF, 400VDC (4P/2S)
		FA	SEMICONDUCTOR FUSE	6,9URB000BS88	690V, 250A (X3)	6,9URB000BS88	690V, 250A(X3)	6,9URB000BS88	690V, 250A (X4)
		RA	CAP BALANCING RESISTOR	RS-10	50 KOHM, 10W (X6)	RS-10	50 KOHM, 10W (X6)	RS-10	50 KOHM, 10W (X8)
		FUP, FUN	SEMICONDUCTOR FUSE	6,9URD32TTF0800	690V, 800A (X4)	6,9URD32TTF0800	690V, 800A (X4)	6,9URD32TTF1000	690V, 1000A (X4)
		BFI	BLOWN FUSE INDICATOR	MS3V1-5BS	250V, 3A	MS3V1-5BS	250V, 3A	MS3V1-5BS	250V, 3A
		IGBT	IGBT	FZ600R12KE3	1200V, 600A (X12)	FZ600R12KE3	1200V, 600A (X12)	FZ600R12KE3	1200V, 600A (X18)
PCB20~20B		SNUBBER CIRCUIT PCB	PC61910P117A	----	PC61910P117A	----	PC61910P117A	----	
RP, RN		RESISTOR	IRH100N	25 OHM, 100W	IRH100N	25 OHM, 100W	IRH100N	25 OHM, 100W	
RS1, 1A		RESISTOR	HPP/4-10R	10 OHM, 60W	HPP/4-10R	10 OHM, 60W	HPP/4-10R	10 OHM, 60W	
18	EOI	OPERATOR INTERFACE	66663-V	----	66663-V	----	66663-V	----	
	LL, RCH, FLX	CONTROL RELAY	RH4BUAC120V	120VAC, 10A	RH4BUAC120V	120VAC, 10A	RH4BUAC120V	120VAC, 10A	
20	DS1	DOOR SWITCH	TABD311N-R	10A, 600V	TABD311N-R	10A, 600V	TABD311N-R	10A, 600V	
	MST	TIMER, ON DELAY	GT5Y-2SN1A200	240VAC COIL, 0.1S-10M DELAY	GT5Y-2SN1A200	240VAC COIL, 0.1S-10M DELAY	GT5Y-2SN1A200	240VAC COIL, 0.1S-10M DELAY	
	MSX	CONTROL RELAY	RR2P-U-AC240V	240VAC COIL, 7A	RR2P-U-AC240V	240VAC COIL, 7A	RR2P-U-AC240V	240VAC COIL, 7A	
	PS1	POWER SUPPLY	RS-25-15	5, +15, -15V, 25W	RS-25-15	5, +15, -15V, 25W	RS-25-15	5, +15, -15V, 25W	
	20R1	RESISTOR	MR25R-5K11-F50	5.11KOHM, .25W	MR25R-5K11-F50	5.11KOHM, .25W	MR25R-5K11-F50	5.11KOHM, .25W	
21	FAN1, 2	HEAT SINK FAN	RH31M-4EK.2F.1R	230VAC, 50/60HZ	RH31M-4EK.2F.1R	230VAC, 50/60HZ	RH31M-4EK.2F.1R	230VAC, 50/60HZ	
	C1, 2	FAN RUN CAPACITOR	CMPS/X349U	350V, 4uF	CMPS/X349U	350V, 4uF	CMPS/X349U	350V, 4uF	
	FAN11, 12	INTERNAL FAN	148VK0281030	240VAC, 33W, 50/60HZ	148VK0281030	240VAC, 33W, 50/60HZ	148VK0281030	240VAC, 33W, 50/60HZ	
	FAN21~24	ENCLOSURE FAN	148VK0281030	240VAC, 33W, 50/60HZ	148VK0281030	240VAC, 33W, 50/60HZ	148VK0281030	240VAC, 33W, 50/60HZ	
	NK1~4	SURGE SUPPRESSOR	RFM25M224KD	250VAC, 0.22uF, 220 OHM	RFM25M224KD	250VAC, 0.22uF, 220 OHM	RFM25M224KD	250VAC, 0.22uF, 220 OHM	
	NK8~11	SURGE SUPPRESSOR	RFM25M224KD	250VAC, 0.22uF, 220 OHM	RFM25M224KD	250VAC, 0.22uF, 220 OHM	RFM25M224KD	250VAC, 0.22uF, 220 OHM	
	TCC	CONTACTOR	LC1D09U7	240V COIL, 9A, 600V	LC1D09U7	240V COIL, 9A, 600V	LC1D09U7	240V COIL, 9A, 600V	
24	VSR, STR	CONTROL RELAY	RH4BUAC120V	120VAC, 10A	RH4BUAC120V	120VAC, 10A	RH4BUAC120V	120VAC, 10A	
	HPR	CONTROL RELAY	RH4BUAC24V	24VAC, 10A	RH4BUAC24V	24VAC, 10A	RH4BUAC24V	24VAC, 10A	
	24PL1~3	PILOT LIGHT	ZB5-AV3	120V:6V	ZB5-AV3	120V:6V	ZB5-AV3	120V:6V	
29	PCB1	CONTROL BOARD	56000V	----	56000V	----	56000V	----	
	PCB2, 2A	GATE DRIVE BOARD	42755P4EX	----	42755P4EX	----	42755P4FX	----	
	PCB3	INTERFACE BOARD	PC61910P120C	----	PC61910P120C	----	PC61910P120C	----	
	PCB4~4E	G-E PROTECT CIRCUIT BOARD	38383C	----	38383C	----	38383C	----	
	PCB5	TERMINAL BOARD	48570A	----	48570A	----	48570A	----	
	PCB5A	JUMPER BOARD	50611A	----	50611A	----	50611A	----	
	PCB11	SPEED SEARCH BOARD	55594A	----	55594A	----	55594A	----	

RLA/kVA RANGE	
RLA	kVA
578~669	600
670~780	700
781~907	815
908~1038	932
1039~1114	1000

CT SELECTION TABLE (CT1-3)		
RLA	RATIO	CT OUTPUT RANGE
563~675	750:5	3.75~4.50A
676~720	800:5	4.22~4.50A
721~749	900:5	4.00~4.16A
750~900	1000:5	3.75~4.50A
901~1080	1200:5	3.75~4.50A
1081~1260	1400:5	3.86~4.50A

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4					
3					
2					
1					
0	03/27/14	FIRST ISSUE	EY	SE	RKR
REV	DATE	DESCRIPTION	BY	CHK	APPR

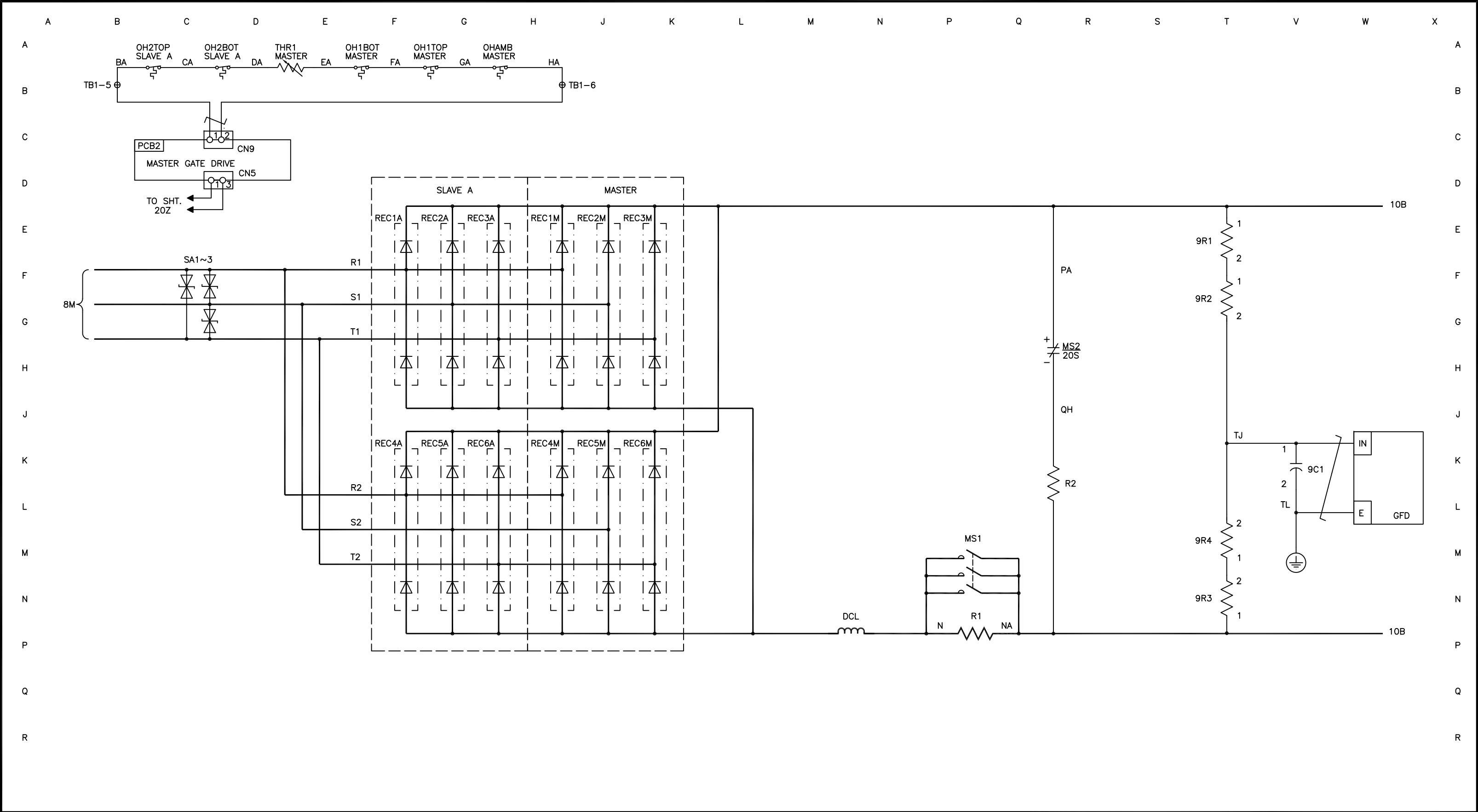
TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

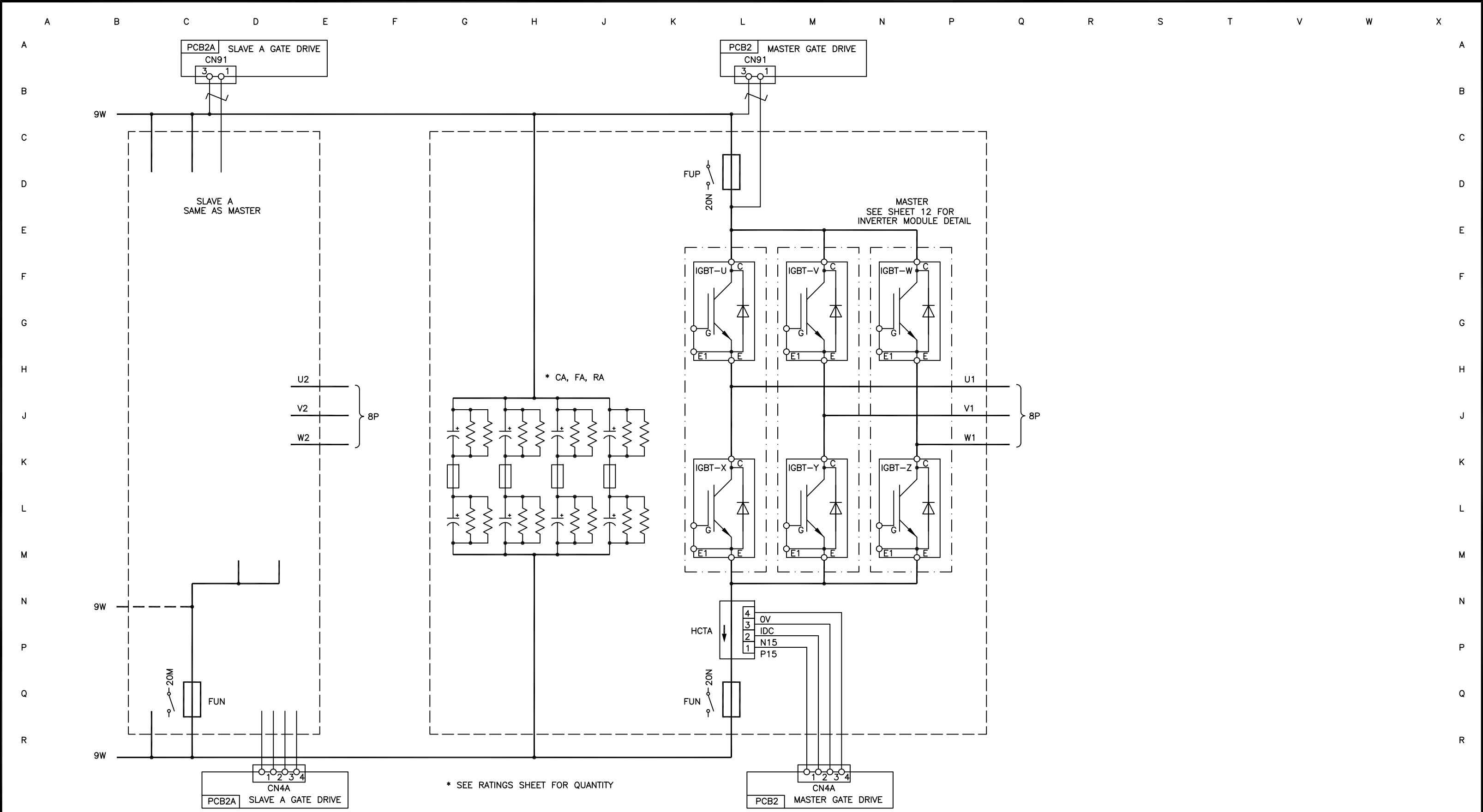
MADE IN HOUSTON, TEXAS U.S.A.

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TITLE: THREE-LINE DIAGRAM – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION: 0	SCALE:
CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER: 1808R608	



4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: AC IN/DC BUS CIRCUIT – 578~1114RLA 600~1000kVA, HX7+D 480VAC		REVISION:	SCALE:
3					0					
2										
1										
0	03/27/14	FIRST ISSUE	EY	SE	RKR		CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER:	
REV	DATE	DESCRIPTION	BY	CHK	APPR			1808R609		

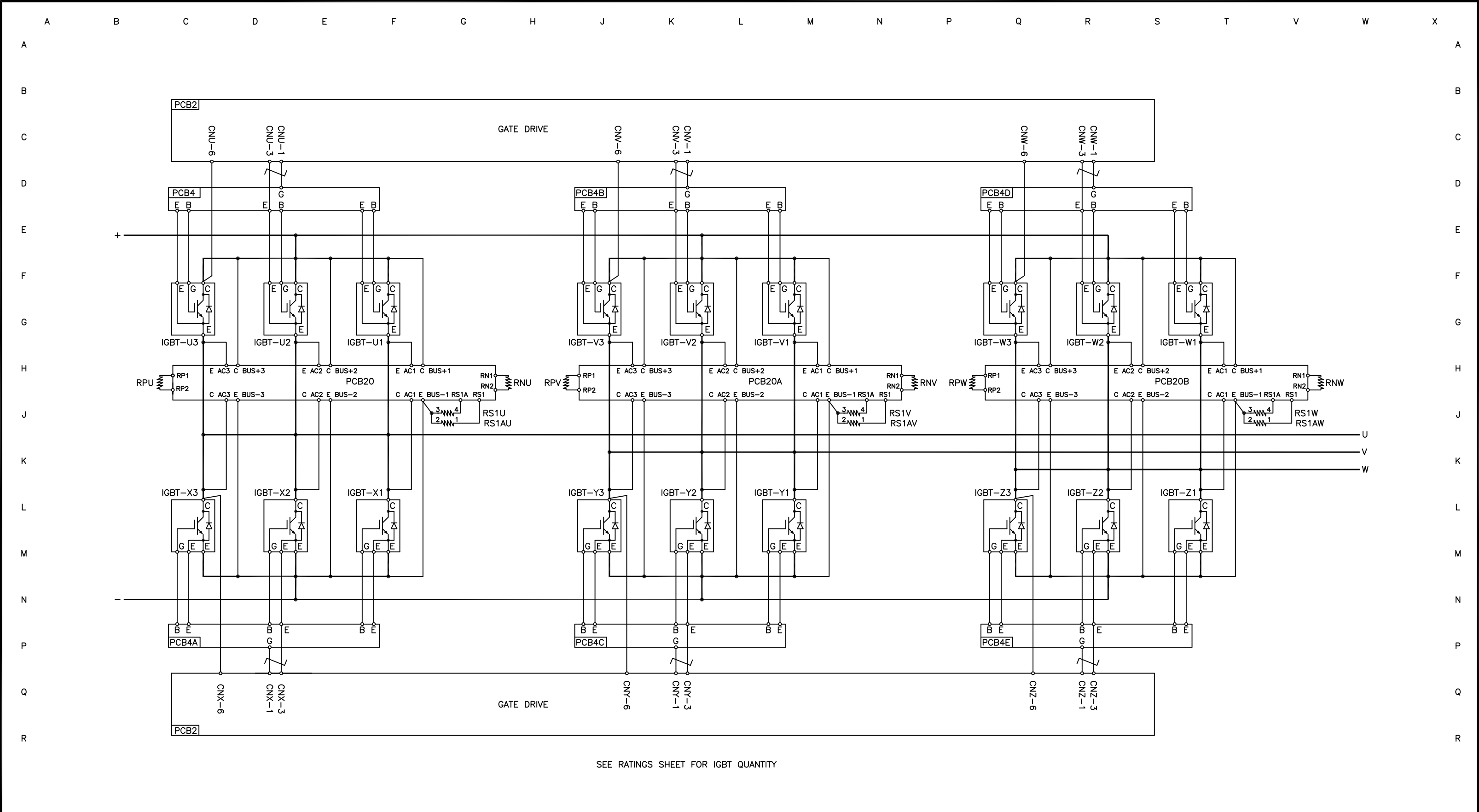


4					
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1					
0	03/27/14	FIRST ISSUE	EY	SE	RKR
REV	DATE	DESCRIPTION	BY	CHK	APPR

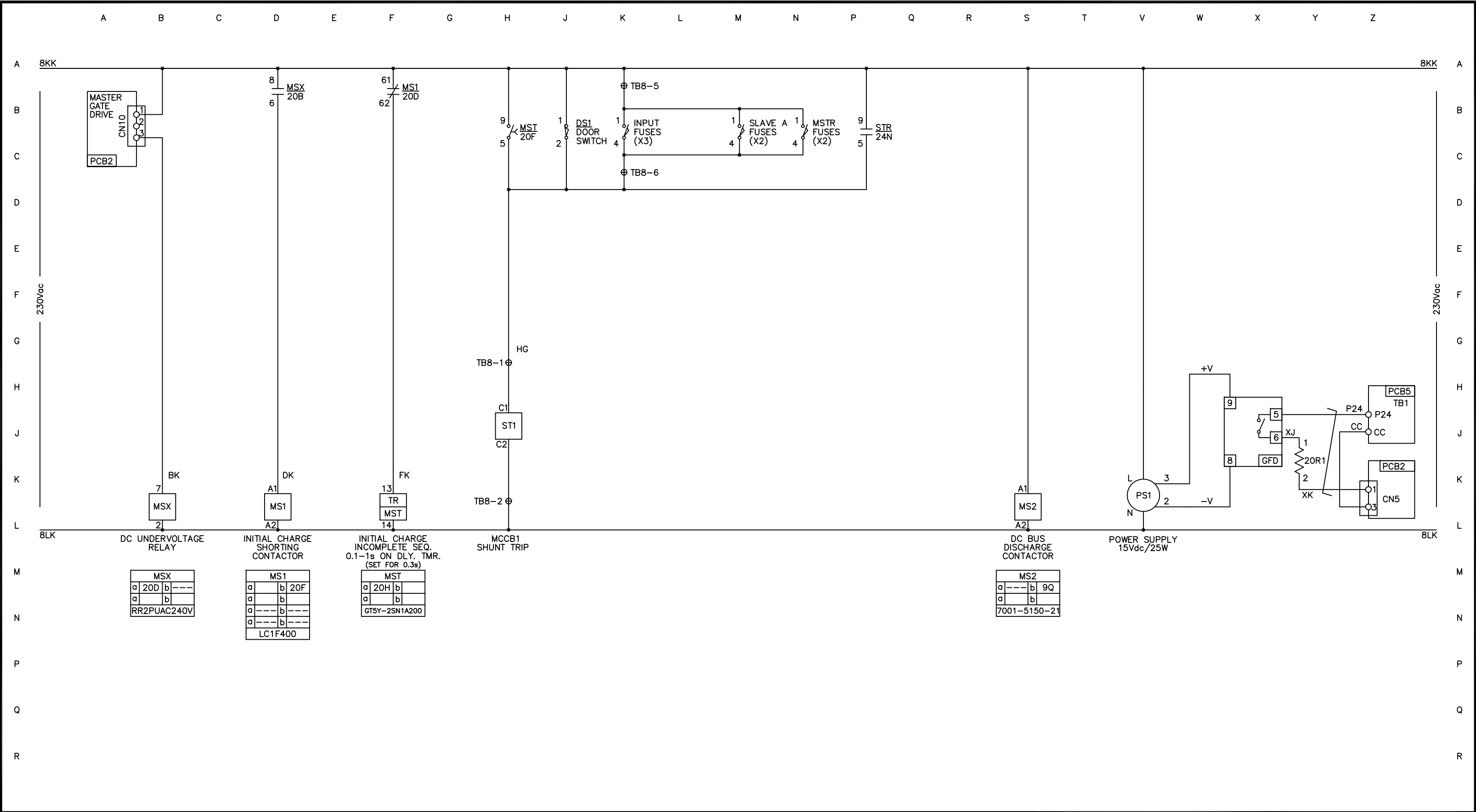
TOSHIBA
TOSHIBA INTERNATIONAL CORPORATION
MADE IN HOUSTON, TEXAS U.S.A.

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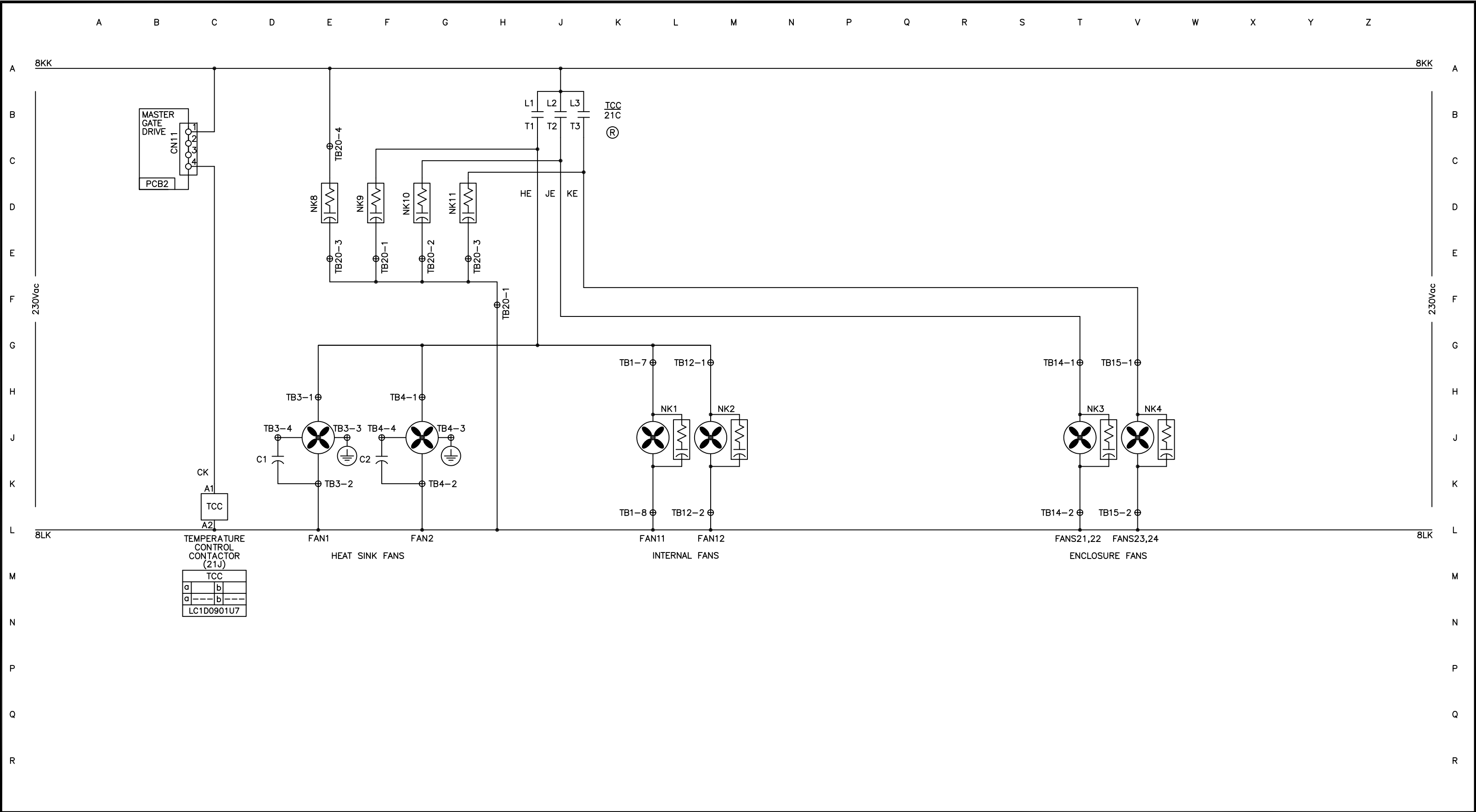
TITLE: DC BUS/AC OUT CIRCUIT – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION: 0	SCALE:
CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER: 1808R610	



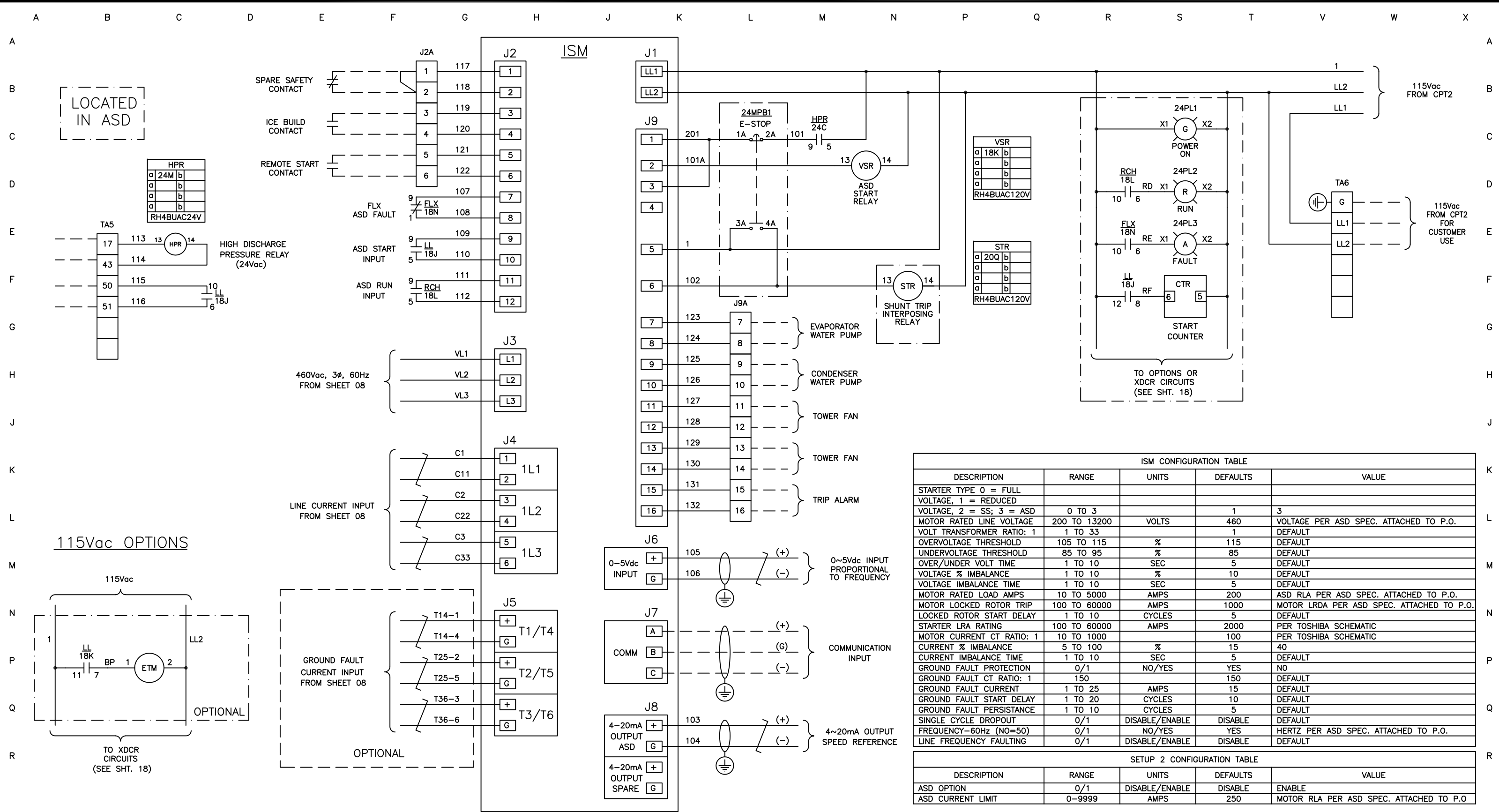
4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: INVERTER CIRCUIT DETAIL – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION: 0	SCALE:
3										
2										
1										
0	03/27/14	FIRST ISSUE	EY	SE	RKR					
REV	DATE	DESCRIPTION	BY	CHK	APPR			CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER: 1808R612



4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: CONTROL CIRCUIT – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION: 0	SCALE:
3										
2							DRAWING NUMBER: 1808R620			
1										
0	03/27/14	FIRST ISSUE	EY	SE	RKR		CUSTOMER:		PROJECT NUMBER:	
REV	DATE	DESCRIPTION	BY	CHK	APPR					



4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: TEMP CONTROL CIRCUIT – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION:	SCALE:
3					0					
2										
1										
0	03/27/14	FIRST ISSUE	EY	SE	RKR		CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER:	
REV	DATE	DESCRIPTION	BY	CHK	APPR			1808R621		



4					
3					
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1					
0	03/27/14	FIRST ISSUE	EY	SE	RKR
REV	DATE	DESCRIPTION	BY	CHK	APPR

TOSHIBA
TOSHIBA INTERNATIONAL CORPORATION
MADE IN HOUSTON, TEXAS U.S.A.

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TITLE:
ISM MODULE INTERFACE – 578~1114RLA
600~1000kVA, HX7+D 460VAC

CUSTOMER:

PROJECT NUMBER:

REVISION:
0

SCALE:

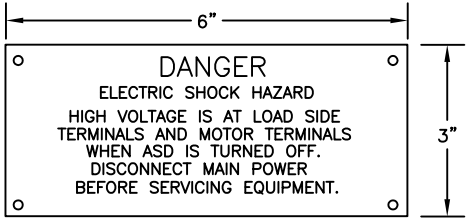
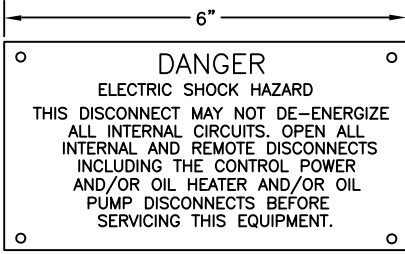
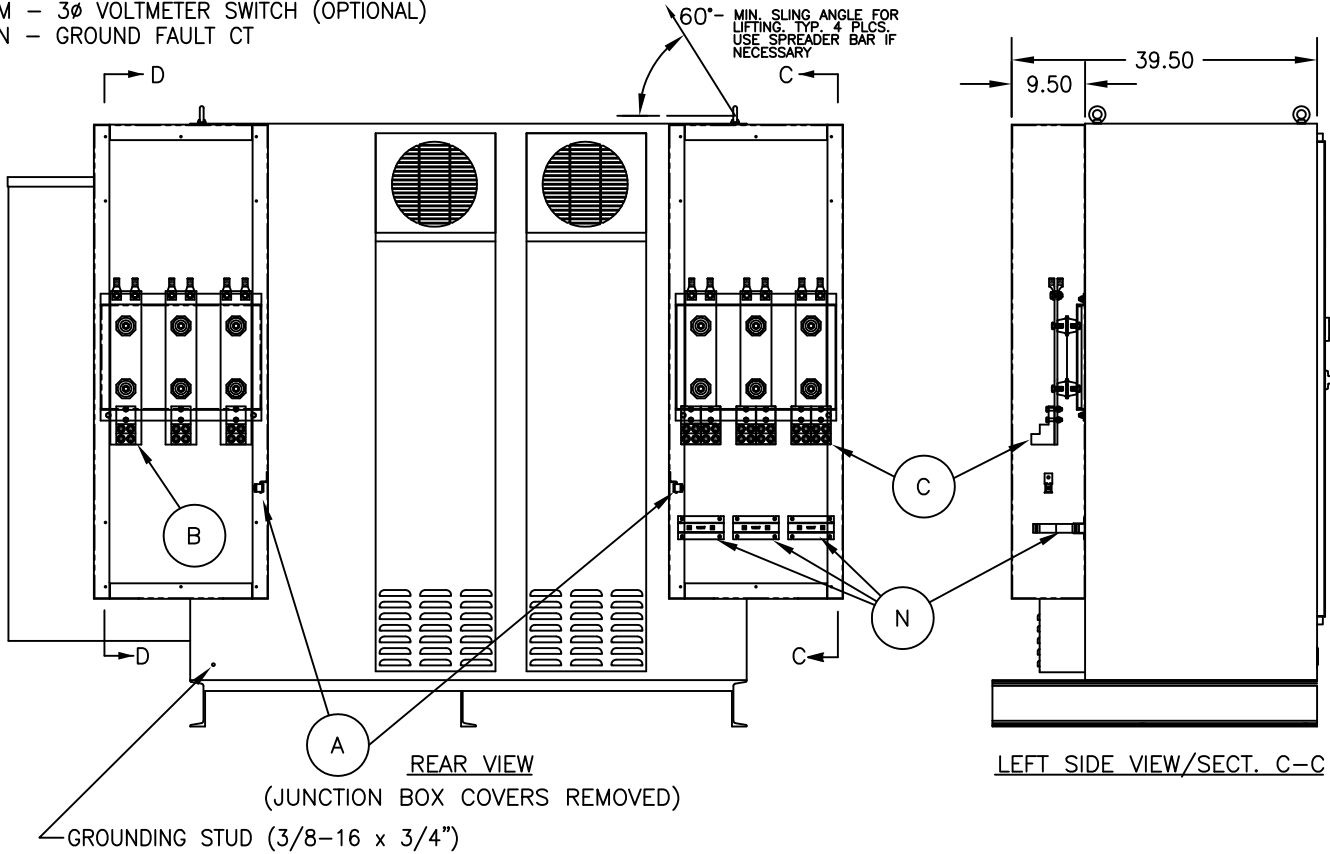
DRAWING NUMBER:
1808R624

LEGEND

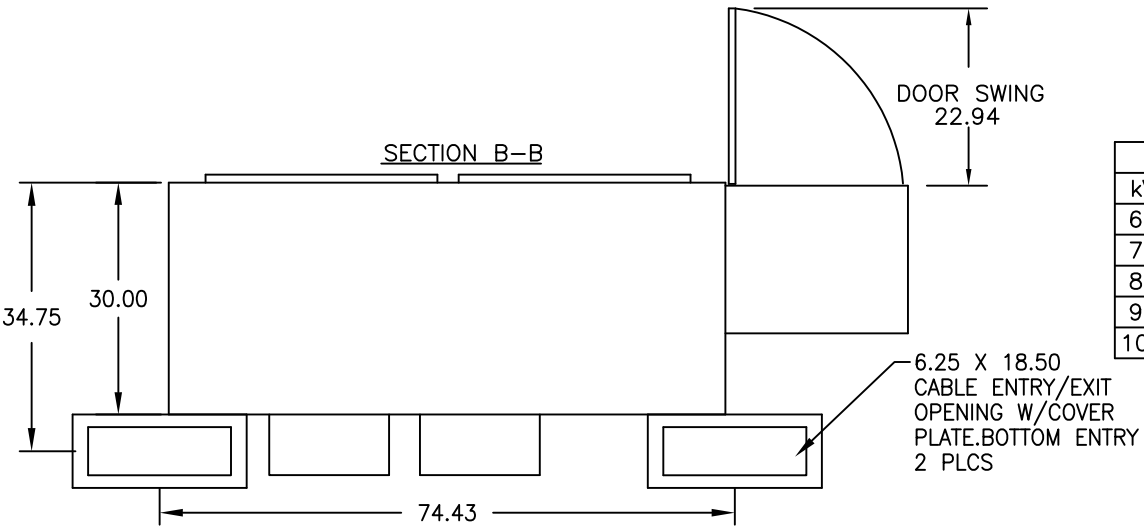
- A - GROUND LUG (1/0 ~ 350MCM)
B - INPUT TERMINATIONS
3 x (3/0 ~ 500MCM) PER Ø (600kVA)
4 x (3/0 ~ 500MCM) PER Ø (700~1000kVA)
(75°C TYPES RHW, THHW, THW, THWN, XHHW)
C - OUTPUT TERMINATIONS
8 x (2 AWG ~ 600MCM) PER Ø
(75°C TYPES RHW, THHW, THW, THWN, XHHW)
D - GREEN PILOT LIGHT - "POWER ON"
E - RED PILOT LIGHT - "RUN"
F - AMBER PILOT LIGHT - "FAULT"
G - PUSHBUTTON - "EMERGENCY STOP"
H - START COUNTER
I - ELAPSED TIME METER (OPTIONAL)
J - AMMETER - 0~XXXX (OPTIONAL)
K - 3Ø AMMETER SWITCH (OPTIONAL)
L - VOLTMETER - 0~600V (OPTIONAL)
M - 3Ø VOLTMETER SWITCH (OPTIONAL)
N - GROUND FAULT CT

NOTES

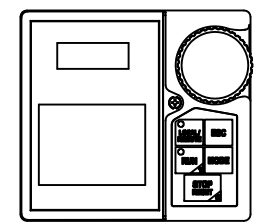
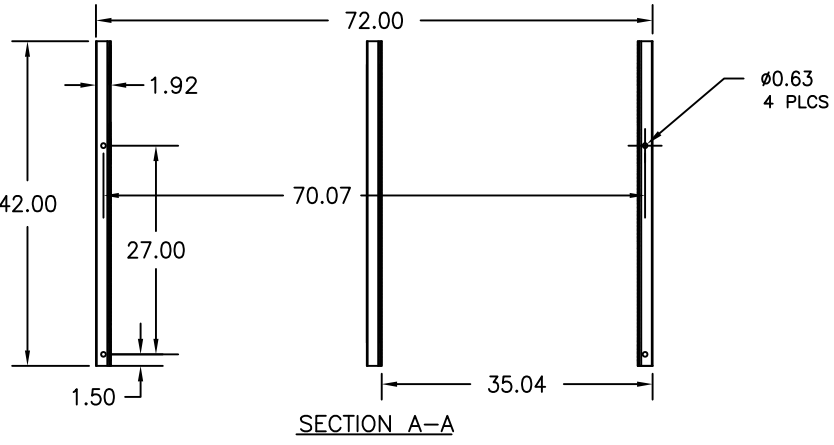
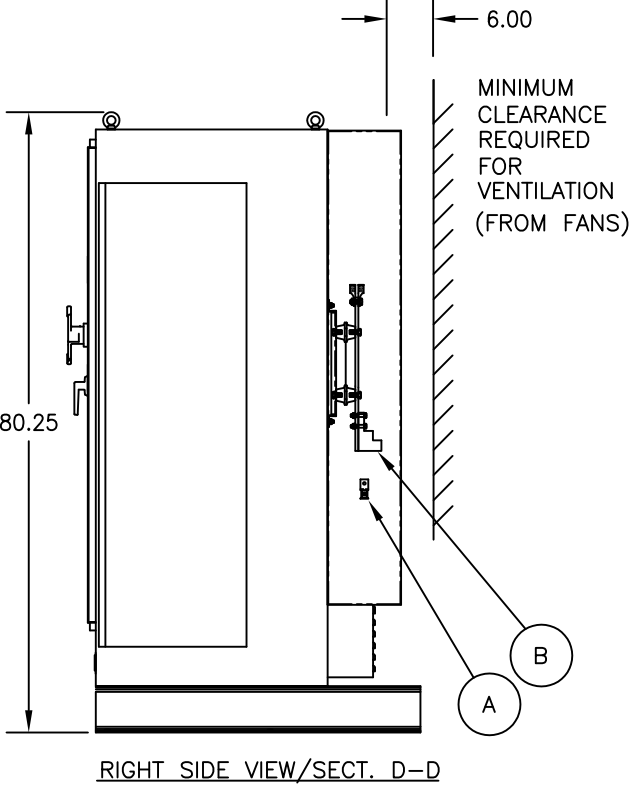
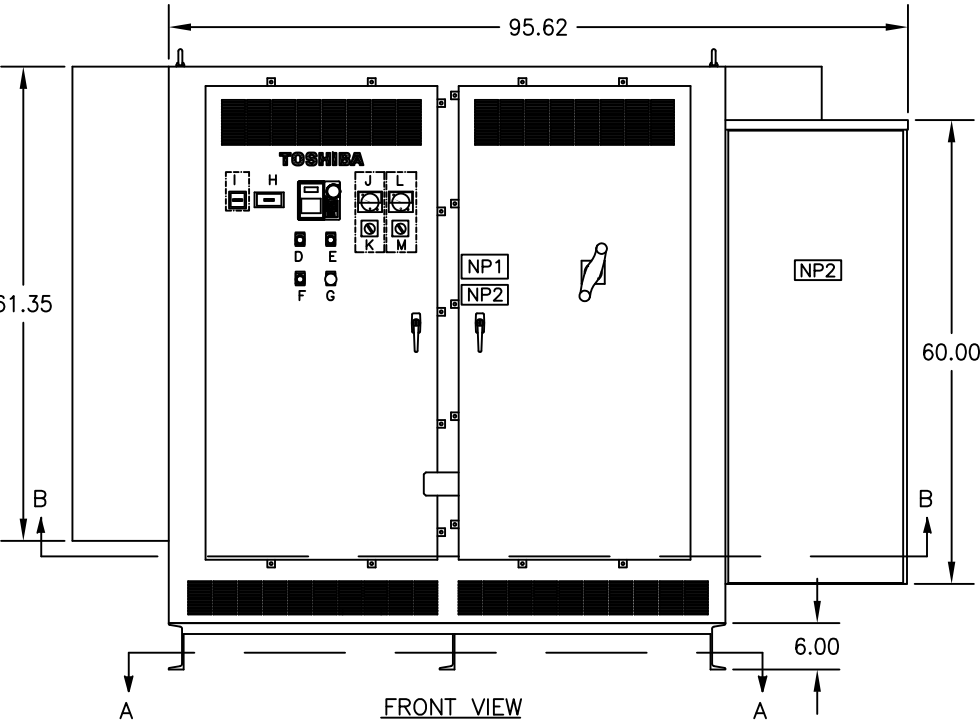
- DIMENSIONS ARE IN INCHES.
- DIMENSIONS FOR REFERENCE ONLY.
- WEIGHT: APPROX. 2685lbs (1221kg)
- COLOR: GRAY
- INPUT/OUTPUT TERMINATION BENDING
SPACE IN ACCORDANCE WITH NEC TABLE 312.6(B)



NOTE: NAMEPLATES TO BE RED WITH WHITE LETTERS. FIRST LINE TO BE 3/8". ALL OTHER LINES TO BE 3/16".



ASD SPEC		CIRCUIT BREAKER RATING	
kVA	RLA RANGE	CB AMPS	AIC@480V
600	578~669	800	65kA
700	670~780	1000	65kA
815	781~907	1000	65kA
932	908~1038	1200	65kA
1000	1039~1114	1200	65kA



KEYPAD DETAILED VIEW

4						TOSHIBA TOSHIBA INTERNATIONAL CORPORATION MADE IN HOUSTON, TEXAS U.S.A. THIS MATERIAL IS THE EXCLUSIVE PROPERTY OF TOSHIBA INTERNATIONAL CORPORATION AND SHALL NOT BE REPRODUCED, USED, OR DISCLOSED TO OTHERS UNLESS PRIOR WRITTEN AUTHORIZATION IS OBTAINED.	TITLE: ENCL W/ZCT OPTION – 578~1114RLA 600~1000kVA, HX7+D 460VAC		REVISION: 0	SCALE: 1.0=26.0
3										
2										
1										
0	03/27/14	FIRST ISSUE	EY	SE	RKR					
REV	DATE	DESCRIPTION	BY	CHK	APPR			CUSTOMER:	PROJECT NUMBER:	DRAWING NUMBER: 1808R630

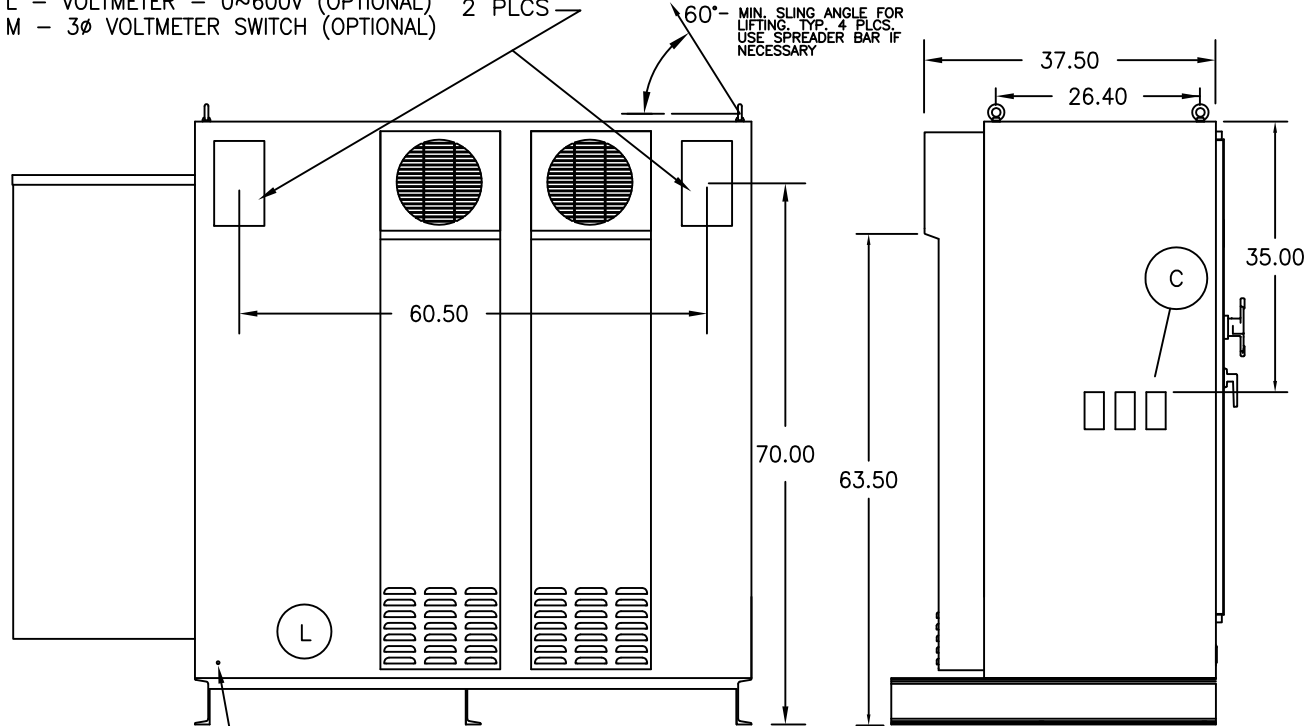
LEGEND

- A - GROUND LUG (1/0 ~ 350MCM)
B - INPUT TERMINATIONS (REAR ENTRY)
3 x (3/0 ~ 500MCM) PER Ø (600kVA)
4 x (3/0 ~ 500MCM) PER Ø (700~1000kVA)
(75°C TYPES RHW, THHW, THW, THWN, XHHW)
C - OUTPUT TERMINATIONS (REAR ENTRY)
4 x (1/0 ~ 750MCM) PER Ø
(75°C TYPES RHW, THHW, THW, THWN, XHHW)
D - GREEN PILOT LIGHT - "POWER ON"
E - RED PILOT LIGHT - "RUN"
F - AMBER PILOT LIGHT - "FAULT"
G - PUSHBUTTON - "EMERGENCY STOP"
H - START COUNTER
I - ELAPSED TIME METER (OPTIONAL)
J - AMMETER - 0~XXA (OPTIONAL)
K - 3Ø AMMETER SWITCH (OPTIONAL)
L - VOLTMETER - 0~600V (OPTIONAL)
M - 3Ø VOLTMETER SWITCH (OPTIONAL)

11.00 X 6.50
CABLE ACCESS
W/COVER PLATE
2 PLCS

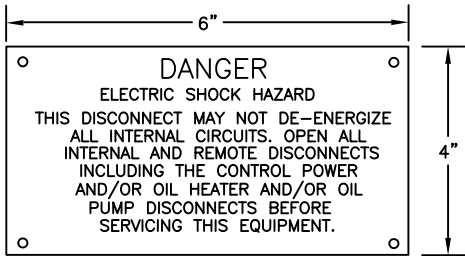
NOTES

- DIMENSIONS ARE IN INCHES.
- DIMENSIONS FOR REFERENCE ONLY.
- WEIGHT: APPROX. 2350lbs (1068kg)
- COLOR: GRAY
- INPUT/OUTPUT TERMINATION BENDING
SPACE IN ACCORDANCE WITH NEC TABLE 312.6(B)

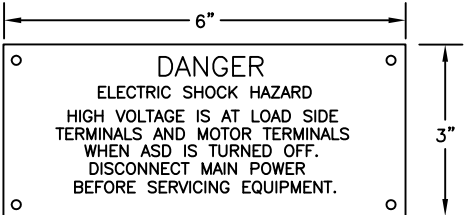


REAR VIEW

LEFT SIDE VIEW

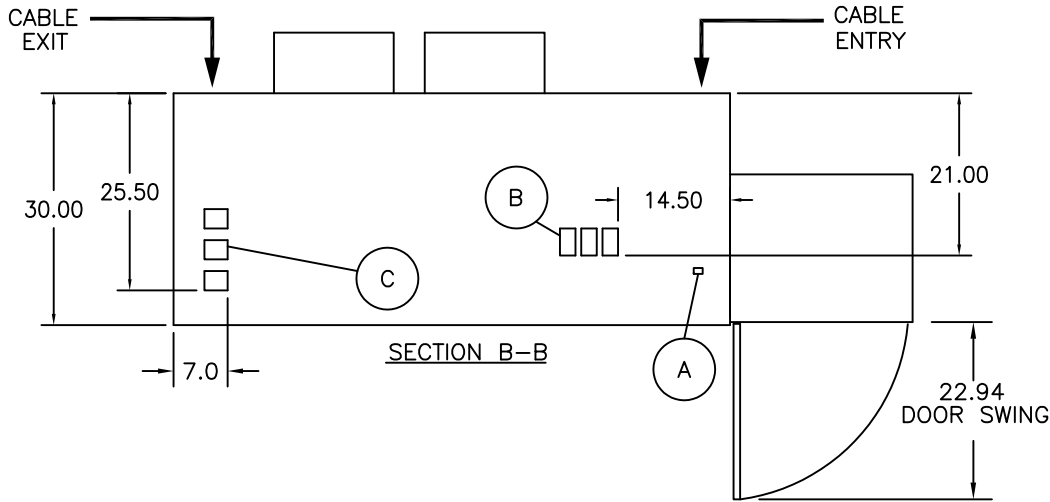


NAMEPLATE 1

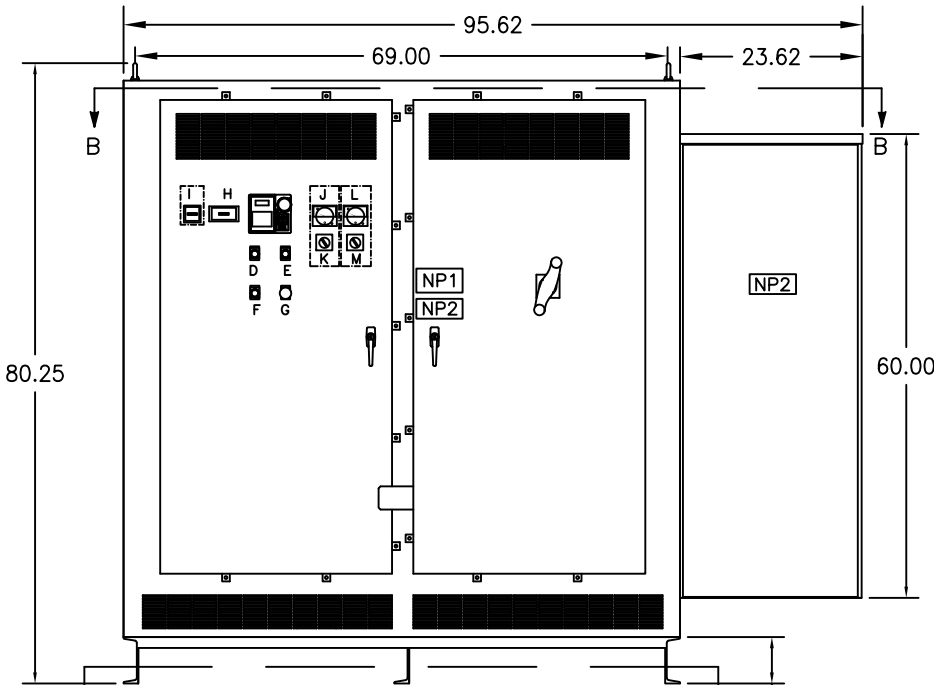


NAMEPLATE 2

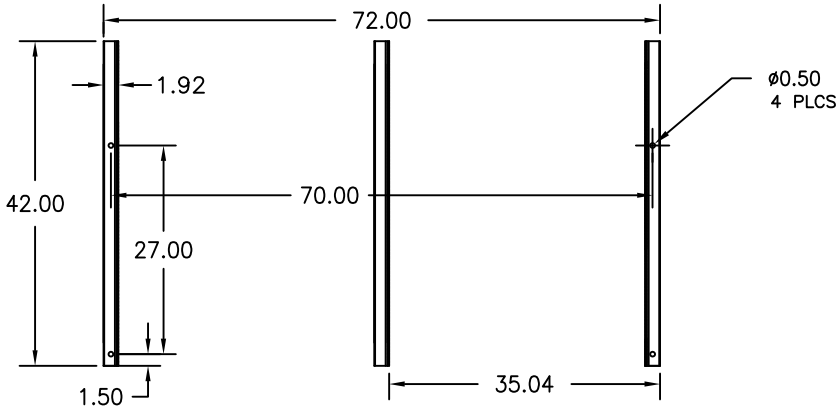
NOTE: NAMEPLATES TO BE RED WITH WHITE LETTERS. FIRST LINE TO BE 3/8". ALL OTHER LINES TO BE 3/16".



SECTION B-B

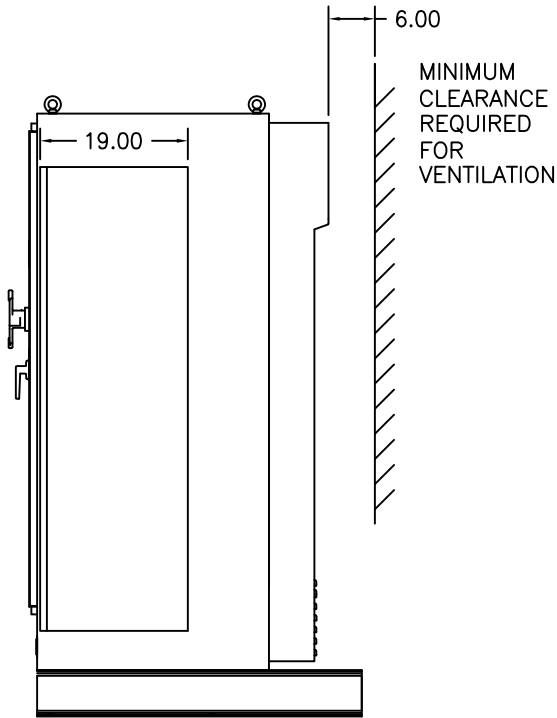


FRONT VIEW

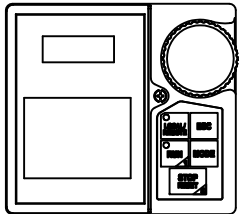


SECTION A-A

ASD SPEC		CIRCUIT BREAKER RATING	
kVA	RLA RANGE	CB AMPS	AIC@480V
600	578~669	800	65kA
700	670~780	1000	65kA
815	781~907	1000	65kA
932	908~1038	1200	65kA
1000	1039~1114	1200	65kA



RIGHT SIDE VIEW



KEYPAD DETAILED VIEW

4					
3					
2					
1					
0	03/27/14	FIRST ISSUE	EY	SE	RKR
REV	DATE	DESCRIPTION	BY	CHK	APPR

TOSHIBA
TOSHIBA INTERNATIONAL CORPORATION
MADE IN HOUSTON, TEXAS U.S.A.

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TITLE: ENCLOSURE OUTLINE-N1 - 578~1114RLA 600~1000kVA, HX7+D 460VAC	
CUSTOMER:	PROJECT NUMBER:

REVISION: 0	SCALE: 1.0=26.0
DRAWING NUMBER: 1808R631	