SHANGHAI JIANGNAN CHANGXING HEAVY INDUSTRY CO., LTD

Hull No.：H2431/2432/2433

5100 TEU CONTAINER VESSEL

EMERGENCY SWITCHBOARD

DESIGNED BY		DRAWING NO.	TC06E058
COMPARED BY		REVISION	
CHECKED BY		CLASS	GL
APPROVED BY		DATE	2008-5-9
TERASAKI *Ensuring Service, Maintaining Quality*		TERASAKI (CHINA) ELECTRIC CO., LTD	

VOL.1

	FLAG OF SHIP	MARSHALL/LIBERIA	KIND OF SHIP	5100TEU CLASS CONTAINER VESSEL	REF SHEET No.
GENERAL	RULE AND REGULATION	☐ ABS ☐ BV ☐ DNV ☐ JG ■ GL ☐ LRS ☐ NK ☐ CCS SPECIAL NOTATION: ■ AUT			
	STANDARD	☐ JIS ☐ JEM ■ IEC PUB.92 ■ GB ☐ EN			
	DRAWING AND DOCUMENT	LANGUAGE: ■ ENGLISH ☐ CHINESE UNIT: ■ METRIC			
	SWITCHBOARD RATING	MAIN POWER SOURCE: AC450V 60Hz 3?3W AC230V 60Hz 3φ 3W CONTROL POWER SOURCE: AC220V DC24V MAIN BUS CAPACITY: 700A			
	ENCLOSURE TYPE	ENCLOSURE TYPE TO BE IP22			
	AMBIENT TEMPERATURE	☐ 40℃ ■ 45℃			
MECHANICAL CONSTRUCTION AND INSTALLATION	LOCATION	■ EMERGENCY GENERATOR ROOM ☐ OUTDOOR			
	INSTALLATION	■ FLOOR MOUNTING AND SELF STANDING ☐ WALL MOUNTING			
	ACCESSIBILITY	■ FRONT ■ REAR ☐ SIDE			
	ENCLOSURE	FRONT ■ DOOR ☐ COVER SIDE ■ FIXED PLATE REAR ☐ DOOR ■ REMOVABLE COVER BOTTOM ■ OPEN			
	PARTITION PLATE	☐ PROVIDED ■ NOT PROVIDED			
	HAND RAIL	FRONT ■ HORIZONTAL REAR ■ HORIZONTAL			
	CHANNEL OR ANGLE BASE	■ PROVIDED ■ H=200 ☐ NOT PROVIDED			
	PAINT COLOR	OUTSIDE: ■ 7.5BG7/2 ■ ROUGH-POLISHED INSIDE: ■ MAKER STANDARD			
	CANOPY LIGHT	FRONT: ■ PROVIDED ☐ NOT PROVIDED REAR: ■ PROVIDED ☐ NOT PROVIDED			
	MATERIAL	■ SHEET STEEL			
ELECTRICAL CONSTRUCTION	BUS BAR	MATERIAL: ■ COPPER CONTACT SURFACE: ☐ SILVER PLATED ■ TIN PLATED			
	BUSBAR COLOR CODING	■ WITH COLOR LABEL AC { PHASE(R)(A): ☐ RED ■ GREEN PHASE(S)(B): ☐ WHITE ■ YELLOW PHASE(T)(C): ☐ BLUE ■ BROWN DC { POLE(P) ■ RED POLE(N) ■ BLUE				
	BUSBAR PHASE ARRANGEMENT	VIEWING FROM FRONT PHASE(R)(U) PHASE(S)(V) PHASE(T)(W) NEUTRAL(N) POLE(P) POLE(N) LEFT → RIGHT TOP → BOTTOM FRONT → BACK			
	BUS DUCT	☐ PROVIDED ☐ AIR INSULATION ☐ INSULATION ■ NOT PROVIDED			
	CABLE ENTRANCE	■ TOP ■ WITH CABLE GLAND ☐ REAR UPPER ☐ WITH CABLE COAMING ■ BOTTOM ■ OPEN			

INTERNAL WIRING MATERIAL		TYPE / CIRCUIT	600V CBYJR(85 DEG C)	250V CBYJR(75 DEG C)	REF SHEET No.
		POWER CIRCUIT	■ MIN2.5mm^2		
		CONTROL CIRCUIT		■ MIN0.75mm^2	
ELECTRICAL CONSTRUCTION AND PARTS	TERMINAL LUG FOR OUTGOING CABLE	□ PROVIDED ■ NOT PROVIDED			
	SHORT CIRCUIT FAULT LEVEL	AC450V BUS 32.455 KA SYM.RMS. 81.769 KA ASYM.PEAK AC230V BUS 3.119 KA SYM.RMS. 7.459 KA ASYM.PEAK			
	CIRCUIT BREAKER	REFER TO BREAKING CAPACITY LIST			
	FUSE (CONTROL CIRCUIT)	REFER TO THE FUSE CAPACITY LIST			
	METER	■ DEIF ■ 96×96 90° SCALE 1.5 CLASS □ 56X56 ACR SCALE 1.5 CLASS BEZEL COLOR ■ BLACK			
	INSULATION RESISTANCE METER	■ DEIF □ NOT PROVIDED BEZEL COLOR ■ BLACK ■ 96X96 ACR SCALE 1.5 CLASS □ 110×110 SCALE 1.5 CLASS			
	RUNNING HOUR METER	■ PROVIDED □ WITHOUT RESET □ NOT PROVIDED □ WITH RESET			
	WATTHOUR METER	■ PROVIDED □ NOT PROVIDED BEZEL COLOR ■ BLACK			
	MAIN CONTROL SWITCH	■ K&N □ OTHER			
	INDICATING LAMP BULB	■ IDEC ■ φ22			
	NAMEPLATE	MATERIAL: ■ ACRYLIC LANGUAGE: ■ ENGLISH (NAMEPLATE) □ CHINESE & ENGLISH(CAUTION PLATE) TYPE: ■ REVERSE ENGRAVED □ ENGRAVED BACKGROUND: □ BLACK ■ WHITE GENERIAL LETTERING: ■ BLACK WARNING LETTERING: ■ RED			
	SPARE PARTS	■ SUPPLIED □ NOT SUPPLIED BOX COLOR (MUNSELL CODE): ■ THE SAME AS MSB			
OTHERS	ENGINE LOCAL CONTROL BOX	□ PROVIDED ■ NOT PROVIDED			
	ENGINE START/STOP	■ PROVIDED □ NOT PROVIDED			

ABBR.	DESCRIPTION	ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
A	AMMETER	FS	FREQUENCY METER SWITCH	RL	RED LIGHT
AC	ALTERNATING CURRENT	FSS	FLICKER STOP SWITCH	RPRY	REVERSE POWER RELAY
ACB	AIR CIRCUIT BREAKER	GCS	GOVERNOR MOTOR CONTROL SWITCH	SCR	SILICON CONTROLLED RECTIFIER
AG	AUXILIARY GENERATOR	GL	GREEN LIGHT	SEC	SECOND
AS	AMMETER SWITCH	GSP	GROUP STARTER PANEL	SG	SHAFT GENERATOR
ASS	AUTO SYNCHRO SWITCH	H	HEATER/HOUR	SHS	SPACE HEATER SWITCH
ASCS	AUTO SYNCHRO & LOAD SHIFT SWITCH	HM	RUNNING HOUR METER	SHT	SHUNT TRIP
ATR	ACB RESET SWITCH	IL	INCANDESCENT LAMP	ST	STARTER
AUS	AUXILIARY SWITCH	ILS	INCANDESCENT LAMP SWITCH	STD	SHORT TIME DELAY
AUTO	AUTOMATIC	INST	INSTANTANEOUS	STR	SHORT CIRCUIT TROUBLE RESET
AUX	AUXILIARY	INV	INVERTER	SY	SYNCHROSCOPE
AVR	AUTOMATIC VOLTAGE REGULATOR	IRM	INSULATION RESISTANCE METER	SYS	SYNCHROSCOPE SWITCH
AST	FULL AUTO START	KS	KNIFE SWITCH	STT	ENG START SWITCH
ASP	FULL AUTO STOP	KSDT	KNIFE SWITCH DOUBLE THROW	STP	ENG STOP SWITCH
BCO	BREAKER CONTROL OPEN	KSTT	KNIFE SWITCH TRIPLE THROW	SL	STANDBY LIGHT
BCS	BREAKER CONTROL CLOSE	LSS	AUTO LOAD SHIFT SWITCH	T	TEMPERATURE METER/THERMOMETER
BL	BELL	LTD	LONG TIME DELAY	TB	TERMINAL BLOCK
BL	BLUE LIGHT	LTS	LAMP TEST SWITCH	TCS	TRANSFORMER CONNECTING LINK
BS	BUZZER STOP	MANU	MANUAL	TG	TURBO GENERATOR
BZ	BUZZER	MC	MAGNETIC CONTACTOR	TL	TRANSPARENT LIGHT
CCC	CROSS CURRENT COMPENSATOR	MCCB	MOLDED CASE CIRCUIT BREAKER	TMS	TEMPERATURE METER SWITCH THERMOMETER SWITCH
COS	CHANGE OVER SWITCH	MG	MOTOR GENERATOR/MAIN GENERATOR	TPB	TRIP PUSH BUTTON
CS	CONTROL SWITCH	MIN	MINUTE	TT	TEST TERMINAL
DC	DIRECT CURRENT	M/S	MACHINE SIDE	TS	EG SEQUENCE TEST SWITCH
DG	DIESEL GENERATOR	MSB	MAIN SWITCHBOARD	UVRY	UNDERVOLTAGE RELAY
DM	DIMMER	MV	MAGNETIC VALVE	UVT	UNDERVOLTAGE TRIP
DS	DISCONNECTING SWITCH	NP	NAMEPLATE	V	VOLTMETER
ECS	ENGINE CONTROL SWITCH	OCRY	OVERCURRENT RELAY	VAR	VARMETER
EG	EMERGENCY GENERATOR	OL	ORANGE LIGHT	VR	VOLTAGE REGULATOR
ELS	EARTH LAMP SWITCH	OVRY	OVERVOLTAGE RELAY	VS	VOLTMETER SWITCH
EIL	EMERGENCY LIGHT	PBS	PUSH BUTTON SWITCH	W	WATTMETER
ES	EXCITATION SWITCH	PF	POWER FACTOR METER	WH	WATT HOUR METER
ESB	EMERGENCY SWITCHBOARD	PSI	PHASE SEQUENCE INDICATOR	WL	WHITE LIGHT
ETR	ENG RESET SWITCH	PSL	PHASE SEQUENCE INDICATING LAMP	WIL	WORKING LIGHT
F	FREQUENCY METER	PSC	PHASE SEQUENCE CHECK SWITCH	YL	YELLOW LIGHT
FL	FLUORESCENT LAMP	PLC	PROGRAM LOGIC CONTROLLER		
FLS	FLUORESCENT LAMP SWITCH	RA	REACTOR		

AIR CIRCUIT BREAKERS(MANUFACTURER: TERASAKI)

TYPE		MAXIMUM CURRENT RATING (A)	RATED VOLTAGE (V)	AC BREAKERS		DC BREAKERS	USED
				RATED BREAKING CURRENT (kA) Sym.RMS	RATED MAKING CURRENT (kA) Asym.Peak	RATED BREAKING CURRENT (kA)	
AME B SERIES	AME3B	250	460	① 16 ③ 4	① 34.8 ③ 6.87	—	
	AME4B	400	460	① 16 ③ 6	① 34.8 ③ 10.2	—	○
	AME6B	630	460	① 20 ③ 10	① 42.6 ③ 17.4	—	
	AME8B	800	460	① 30 ③ 15	① 63.8 ③ 33.0	—	
	AME10B	1000	460	① 30 ③ 15	① 63.8 ③ 33.0	—	

○---USED

NOTE:

①---WITH SHORT TIME DELAY TRIP AND INSTANTANEOUS TRIP

②---WITH SHORT TIME DELAY TRIP AND MCR

③---WITH SHORT TIME DELAY TRIP

MCR---MAKING CURRENT RELEASE

MOLDED CASE CIRCUIT BREAKERS (MANUFACTURER:TERASAKI)

TYPE		MAXIMUM CURRENT RATING (A)	AC450V		AC240V		AC125V		DC250V	USED
			RATED BREAKING CURRENT (kA) Sym.RMS	RATED MAKING CURRENT (kA) Asym.peak	RATED BREAKING CURRENT (kA) Sym.RMS	RATED MAKING CURRENT (kA) Asym.peak	RATED BREAKING CURRENT (kA) Sym.RMS	RATED MAKING CURRENT (kA) Asym.peak	RATED BREAKING CURRENT (kA)	
XE	XE100NS	100	10	18.5	25	52.5	42*2	95.6*2	7.5	○
XS	XS50NB	50	10	18.5	25	52.5	42*2	95.6*2	7.5	
	XS100NB	100	25	52.5	50	105			15	
	XS225NS	225	25	52.5	50	105			40	
	XS400CS	400	30	63	50	105				
	XS400NS	400	42	88.2	85	187				
	XS400NE	400	42	88.2	85	187				
	XS600CS	600	30	63	50	105				
	XS600NS	600	50	105	85	187				
	XS600NE	600	50	105	85	187				
	XS800CS	800	30	63	50	105				
	XS800NS	800	50	105	85	187				
	XS800NE	800	50	105	85	187				
	XS1200NE	1200	65	143	100	220				
	XS1600NE	1600	85	187						
	XS2000NE	2000	85	187						
XH	XH50NS	50	42	88.2	85	187				
	XH100NS	100	42	88.2	85	187				
	XH225NS	225	42	88.2	85	187				
	XH225NE	225	42	88.2	85	187				
	XH800PS	800	85	187						
TL	TL-100F	100	120	288						○
	TL-225F	225	120	288						○
	TL-400E	400	120	288						○
	TL-600NE	600	125	298						○
	TL-800NE	800	125	298						
	TL-100C	100	180	415						
	TL-225B	225	180	415						
	TL-400	400	180	415						
	TL-600	600	180	415						
	TL-800	800	180	415						
	TL-1000NE	1000	125	298						
	TL-1200NE	1200	125	298						
TB	TB-5D	10			2.5*3	4.1*3	43.5*1	101.6*1		
	TB-5P	15-50			5*3	8*3	43.5*1	101.6*1		

○---USED

NOTE: *1 - - - AT AC 110V
*2 - - - AT AC 120V
*3 - - - AT AC 220V

① - - -WITH INSTANTANEOUS TRIP
② - - -WITHOUT INSTANTANEOUS TRIP

FUSE						
MANUFACTURER	TYPE	RATED CURRENT (A)	RATED VOLTAGE (V)	RATED BREAKING CURRENT		USED
				AC（KA）	DC（KA）	
LEGRAND	HRC	Up to 25	500	100	60	○
○ ---------USED						

CIRCUIT				101	
AIR CIRCUIT BREAKER(AT MARK III)	TYPE			AME4B	
	NUMBER OF POLE			3	
	VOLTAGE			AC450V	
	FREQUENCY			60HZ	
	AMPERE FRAME			400A	
	BASE CURRENT I_0			384A	
	OVERCURRENT TRIP TYPE			AOU1	
	LONG TIME DELAY TRIP (LTD)	PICK UP CURRENT $I_1=I_0 \times$ RANGE	RANGE	In x (0.8-1.0-1.1-1.15-1.25) 5 GRADUATIONS	
			SET/AMP	1.1	423A
		OPERATING TIME		20SEC AT $I_1 \times 120\%$	
	SHORT TIME DELAY TRIP (STD)	PICK UP CURRENT $I_2=I_0 \times$ RANGE	RANGE	In x (2.0-2.5-3.0-3.5-4.0) 5 GRADUATIONS	
			SET/AMP	2.5	960A
		OPERATING TIME		220ms	
	INST TRIP	RANGE		In x (4-7-12-15) 4 GRADUATIONS	
		SET/AMP		12	4608A
	UVT OR SHT			UVT	
PROTECTION RELAY	REVERSE POWER TRIP	TYPE			
		PICK UP POWER	RANGE		
			SET/KW		
		OPERATING TIME			
	LONG TIME DELAY TRIP (LTD)	TYPE			
		PICK UP CURRENT $I_1=I_0 \times$ RANGE	RANGE		
			SET/AMP		
		OPERATING TIME			
	PREFERENTIAL TRIP	TYPE			
		PICK UP CURRENT $I_P=I_0 \times$ RANGE	RANGE		
			SET/AMP		
		OPERATING TIME			

NOTE:

ACB TYPE DESINATION

AME4B—M F

(1) (2) (3)

(1) ACB TYPE

(2) CLOSING MECHANISM

M··· STORED ENERGY

H··· HANDLE

E··· EXTERNAL HANDLE

(3) MOUNTING

F··· FIXED TYPE

P··· PLUG-IN TYPE

	CIRCUIT				102	
MOLDED CIRCUIT BREAKER（ELECTRONIC TYPE）	TYPE				TL600NE	
	NUMBER OF POLE				3P	
	VOLTAGE				AC450 V	
	FREQUENCY				60 HZ	
	AMPEREFRAME				600	
	CT RATED CURRENT（I_{CT}）				630A	
	OVERCURRENT TRIP	LONG TIME DELAY TRIP (LTD)	PICK-UP CURRENT (I_1)	RANGE	300-350-400-<u>500</u>-600(A)	
				SET	500 A	
			OPERATING TIME (TOLERANCE±20%)	RANGE	5-<u>10</u>-15-20-30	
				SET	10SEC(AT I_1×600%)	
		SHORT TIME DELAY TRIP (STD)	PICK-UP CURRENT $I_2=I_1$×RANGE (TOLERANCE±15%)	RANGE	2.0-<u>4.0</u>-6.0-8.0-10.0	
				SET/AMP	4	2000A
			OPERATING TIME	RANGE(SEC)	0.1-0.15-<u>0.2</u>-0.25-0.3(SEC)	
				SET	0.2 SEC	
			SHORT TIME I^2t(RMAP CHARAC)		OFF	
		PRE-TRIP ALARM	PICK UP CURRENT $I_P=I_1$×RANGE (TOLERANCE±10%)	RANGE		
				SET/AMP		
			OPERATING TIME	RANGE		
				SET		
		INST-TRIP (INST)	PICK UP CURREN (I_3)	RANGE	CONTINUOUSLY ADJUSTABLE FROM (I_{CT}) x300%~1200% (SETING TOLERANCE ± 20%)	
				SET/ AMP	12	7560A
	UVT OR SHT				UVT (AC440V)	

I. DESCRIPTION

FIG.11

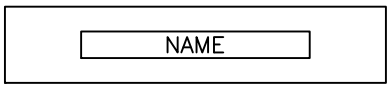


FIG.12

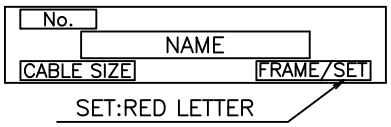


FIG.13

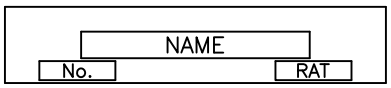


FIG.14

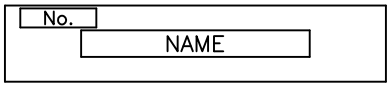


FIG.15

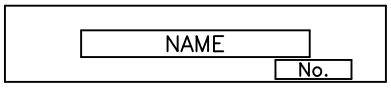


FIG.16

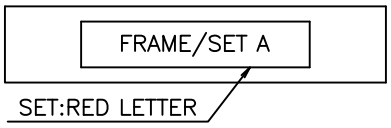
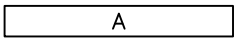


FIG.17

II. LANGUAGE

FIG.21



A:ENGLISH
B:CHINESE

FIG.22

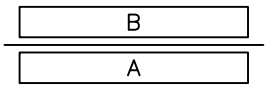
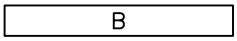


FIG.23



III. DIMENSION

FIG.31

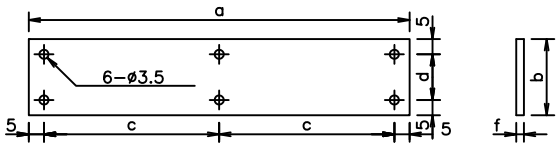


FIG.32

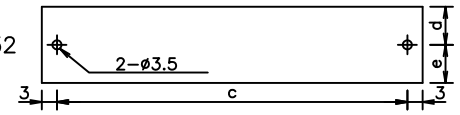


FIG.33

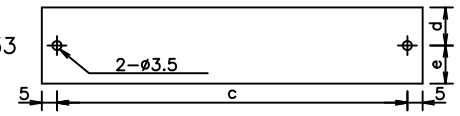
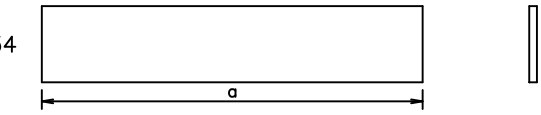


FIG.34



I FIG.	II FIG.	III FIG.	TYPE	a	b	c	d	e	f	REMARKS
11	21	31	U1	315	63	152.5	53	–	3	
11	21	31	U2	200	40	95	30	–	2	
11	21	34	U5S	63	25	–	–	–	2	
11	21	33	U6	63	16	53	8	8	2	
11	21	34	U7	50	12.5	–	–	–	2	
11	21	33	U7S	50	12.5	40	6.25	6.25	2	
11	21	33	U9	100	40	90	20	20	2	
11	21	33	U10	100	25	90	12.5	12.5	2	
12	21	32	U13	40	25	34	12.5	12.5	2	
13	21	34	U14	63	12.5	–	–	–	2	
11	21	33	U15	90	50	80	25	25	2	
12	21	33	U16	90	35	80	17.5	17.5	2	
12	21	33	U17	90	70	80	52.5	17.5	2	
12	21	34	U18	80	45	–	–	–	2	
14	21	33	U19	80	40	74	20	20	2	
13	21	34	U20	29	25	–	–	–	2	
16	21	34	U51	25	8	–	–	–	1	
17	21	34	U52	25	8	–	–	–	1	
12	21	33	U53	80	40	70	20	20	2	
11	21	33	U54	63	40	53	20	20	2	
11	21	33	U55	66	12.5	56	6.25	6.25	5	
15	21	34	LN12	46	20	–	–	–	1	
15	21	34	LN13	64.8	31.3	–	–	–	1	
15	21	34	LN14	26.7	26.7	–	–	–	1	
15	21	34	LN21	22	22	–	–	–		WAX PAPER

NOTE:
1.GENERAL PLATE
MATERIAL -- ACRYLIC RESIN
LETTER -- BLACK(REVERSE ENGRAVED)
GROUND -- WHITE

NAMEPLATE		Cir. No.	CIRCUIT NAME	BREAKER		CABLE		REMARKS
TYPE	QT.			TYPE	SET RATE (A)	SIZE	ENTRANCE	
			EMERGENCY GENERATOR PANEL					
U16	1	101	EMERGENCY GENERATOR (AC450V 3 ϕ 60Hz 240KW)	AME4B 3P PM	384	2(3x120)	U	*1C, *3, *4
U16	1	102	BUS TIE SWITCH	TL-600NE 3P PM	500	3(3x95)	L	*1C, *3, *4
			AC440V FEEDER PANEL					
U16	1	201	EMER. AIR COMPRESSOR	TL-100F 3P PM	30	3 x4	L	
U16	1	202	NO.1 CH. & DISCH. PANEL	TL-100F 3P PM	20	3 x4	U	
U16	1	203	NO.2 CH. & DISCH. PANEL	TL-100F 3P PM	20	3 x4	L	
U16	1	204	CONTROL BOX FOR FOG HORN	TL-100F 3P PM	20	3 x4	U	
U16	1	205	G/E F. O. SUPPLY MODULE UNIT M.D.O. PUMP STARTER	TL-100F 3P PM	15	3 x1.5	L	*2,*12
U16	1	206	FAN FOR EMER. GEN. RM	TL-100F 3P PM	15	3 x1.5	U	*2,*13
U16	1	207	NO.403 POWER DIS. BOX	TL-100F 3P PM	15	3 x2.5	L	*2,*12
U16	1	208	ELEVATOR	TL-100F 3P PM	30	3 x6	U	
U16	1	209	GREASING PUMP CONTACTOR CABINET FOR STEERING GEAR	TL-100F 3P PM	15	3 x1.5	L	
U16	1	210	SPARE	TL-100F 3P PM	60	----	L	
U16	1	5TM	NO.5 EMERGENCY TRANSFORMER PRIMARY SIDE	TL-100F 3P PM	INST:1550	3x35	U	*2,*6
U16	1	6TM	NO.6 EMERGENCY TRANSFORMER PRIMARY SIDE	TL-100F 3P PM	INST:1550	3x35	U	*2,*6
U16	1	211	EMERG. FIRE PUMP	TL-225F 3P PM	125	3x50	U	
U16	1	212	NO.4 E/R VENT. FAN (SUPPLY & EXHAUST)	TL-225F 3P PM	225	3x95	U	*2, *11
U16	1	213	SPARE	TL-225F 3P PM	125	----	L	
U16	1	214	NO.2 STEERING GEAR	TL-400E 3P PM	INST:4000	2(3x70)	U	*6
			AC220V FEEDER PANEL					

NOTE

* 1 □ □

- WITH UVT
- C: MCCB UVT CONTROLLER ON MCCB
- S: UVT CONTROLLER INDEPENDENT
- T: (100ms) UVT CONTROLLER WITH TIME DELAY (100ms)

*2 - WITH SHT
*3 - WITH AUS
*4 - WITH MOTOR OPERATE
*5 - WITH ASSOCIATED OVERCURRENT RELAY
*6 - INST TRIP
*11 –EMERGENCY STOP 1
*12 - EMERGENCY STOP 2
*13 - EMERGENCY STOP 3
*14 - EMERGENCY STOP 4
*15 - EMERGENCY STOP 5
*21- PREFERENTIAL TRIP 1ST
*22- PREFERENTIAL TRIP 2ND
U- CABLE ENTRANCE UPPER
L- CABLE ENTRANCE LOWER
T- TERMINAL BOARD
TB- TERMINAL BLOCK

NAMEPLATE		Cir. No.	CIRCUIT NAME	BREAKER		CABLE		REMARKS
TYPE	QT.			TYPE	SET RATE (A)	SIZE	ENTRANCE	
U53	1	5TM-1	NO.5 TRANSFORMER SECONDARY CIRCUIT	XS225NN 3P PM	----	3 x95	U	
U53	1	6TM-1	NO.6 TRANSFORMER SECONDARY CIRCUIT	XS225NN 3P PM	----	3 x95	U	
U53	1	301	01EL OUTDOOR EMERG. LIGHTS	XE100NS 3P PM	30	3 x6	L	
U53	1	302	02EL NAV. & C DECK LIGHTING	XE100NS 3P PM	20	3 x4	U	
U53	1	303	03EL EMERG. LIGHTS FOR B DECK TO COAMING DECK	XE100NS 3P PM	20	3 x4	L	
U53	1	304	04EL EMERG. LIGHTS FOR E/R	XE100NS 3P PM	40	3 x10	L	
U53	1	305	05EL EMERG. LIGHTS FOR HOLD	XE100NS 3P PM	30	3 x6	U	
U53	1	306	BATTERY CHARGING PANEL FOR EM. GENERATOR STARTING	XE100NS 3P PM	20	3 x2.5	U	
U53	1	307	FIRE CENTRAL UNIT	XE100NS 3P PM	15	2 x1.5	U	
U53	1	308	SMOKE DETECTING ALARM PANEL FOR CARGO HOLD	XE100NS 3P PM	15	2x1.5+E	L	
U53	1	309	CO2 RELEASE ALARM BOX	XE100NS 3P PM	15	2x1.5+E	L	
U53	1	310	E/G SET COOLING WATER PRE-HEATER	XE100NS 3P PM	15	2 x1.5	U	
U53	1	311	E/R AUTOMATION SYS. POWER SUPPLY BOX	XE100NS 3P PM	15	3 x2.5	L	
U53	1	312	SPARE	XE100NS 3P PM	20	----	L	
U53	1	313	ELEVATOR CONTROL BOX	XE100NS 3P PM	30	3 x2.5	U	
U53	1	314	SPARE	XE100NS 3P PM	40	----	L	
U53	1	315	NO.201 POWER DIS. BOX(NAVIGATION)	XE100NS 3P PM	60	3 x16	U	
U53	1	316	NAV. LIGHTS DIS. PANEL	XE100NS 3P PM	20	2 x2.5+E	U	
U53	1	317	SIGNAL LIGHTS DIS. PANEL	XE100NS 3P PM	20	2 x4+E	U	
U53	1	318	RADIO DISTRIBUTION BOX	XE100NS 3P PM	30	3 x6	U	
U53	1	319	NO.202 POWER DIS. BOX	XE100NS 3P PM	40	3 x10	L	
U53	1	320	SPARE	XE100NS 3P PM	15	----	L	

NOTE

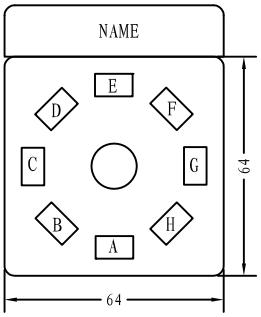
* 1 □ □

- WITH UVT
- C: MCCB UVT CONTROLLER ON MCCB
- S: UVT CONTROLLER INDEPENDENT
- T: (100ms) UVT CONTROLLER WITH TIME DELAY (100ms)

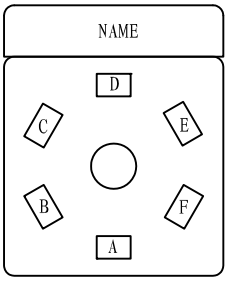
*2 - WITH SHT
*3 - WITH AUS
*4 - WITH MOTOR OPERATE
*5 - WITH ASSOCIATED OVERCURRENT RELAY
*6 - INST TRIP
*11 –EMERGENCY STOP 1
*12 - EMERGENCY STOP 2
*13 - EMERGENCY STOP 3
*14 - EMERGENCY STOP 4
*15 - EMERGENCY STOP 5
*21- PREFERENTIAL TRIP 1ST
*22- PREFERENTIAL TRIP 2ND
U- CABLE ENTRANCE UPPER
L- CABLE ENTRANCE LOWER
T- TERMINAL BOARD
TB- TERMINAL BLOCK

NAMEPLATE		NO.	NAME	REMARKS
TYPE	QT.			
U2	1	100	EMERGENCY GENERATOR PANEL (AC450V 3φ 60Hz 240KW)	
U2	1	200	AC440V FEEDER PANEL	
U2	1	300	AC220V FEEDER PANEL	
U6	1	160	EARTH LAMP (440V BUS) (R) (S) (T)	TRANSPARENCE
U6	1	260	EARTH LAMP (220V BUS) (R) (S) (T)	TRANSPARENCE
U10	1	161	FAN FOR EMERGENCY GENERATOR ROOM	
LN21	1	1	GENERATOR RUNNING	WL
LN21	1	2	DC24V SOURCE	WL
LN21	1	3	EM'CY STOP SOURCE	WL
LN21	1	4	STANDBY	YL
LN21	1	5	BUS TIE OPEN	RL
LN21	1	6	BUS TIE CLOSED	GL
LN21	1	7	AC440V LOW INSULATION	RL
LN21	1	8	AC220V LOW INSULATION	RL
LN21	1	9	ACB ABNORMAL TRIP	RL
LN21	1	10	EM'CY STOP CIRCUIT CONTROL SOURCE FAILURE	RL
LN21	1	11	E/G DO LEVEL LOW	RL
LN21	1	12	EMERG. STOP LINE FAULT	RL

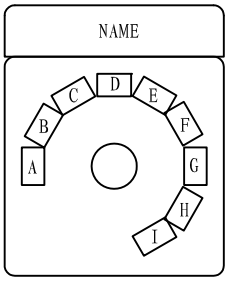
TYPE "D"



TYPE "E"



TYPE "F"



OPERATION:

N MAINTAINED AT EACH POSITION

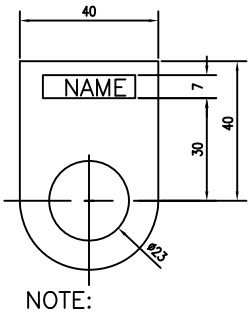
R SPRING RETURN TO CENTER

NSFO PULL TO TURN AND MAINTAINED AT EACH POSITION

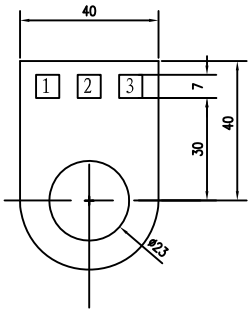
RSF PULL TO TURN AND SPRING RETURN TO []POSITION ([] SEE FIG"1")

NAMEPLATE		SYMBOL	LETTERS ON THE NAMEPLATE										SWITCH TYPE	REMARKS
TYPE	QT.		NAME	A	B	C	D	E	F	G	H	I		
D	1	AS-1	AMMETER	Is		I_T		OFF		I_R			CA10 A021-600	N
D	1	AS-2	AMMETER	Is		I_T		OFF		I_R			CA10 A021-600	N
D	1	VS-1	VOLTMETER			OFF	U_{RS}	U_{ST}	U_{TR}				CA10 A011-621	N
F	1	FVS-1	FREQUENCY & VOLTMETER	OFF	U_{RS}	U_{ST}	U_{TR}	BUS BAR					CA10 A262-600	N
E	1	COS-A	MODE SELECT			MANU		AUTO					CA10 A223-600	N

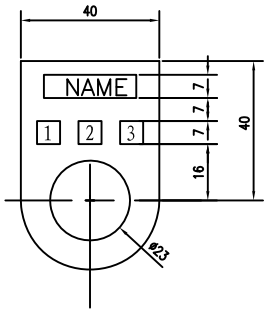
TYPE "CS1"



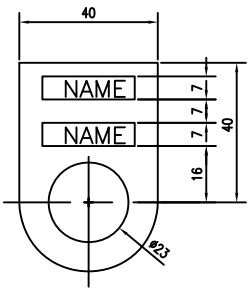
TYPE "CS2"



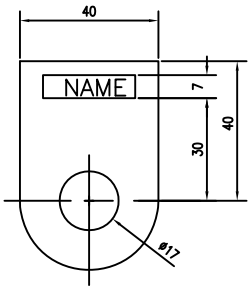
TYPE "CS3"



TYPE "CS4"



TYPE "CS5"



NOTE:

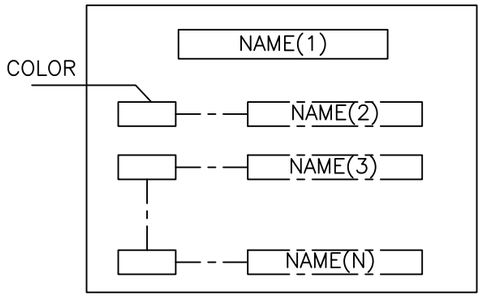
MATERIAL: ACRYLIC

LETTER: BLACK(REVERSE ENGRAVED)

GROUND: WHITE

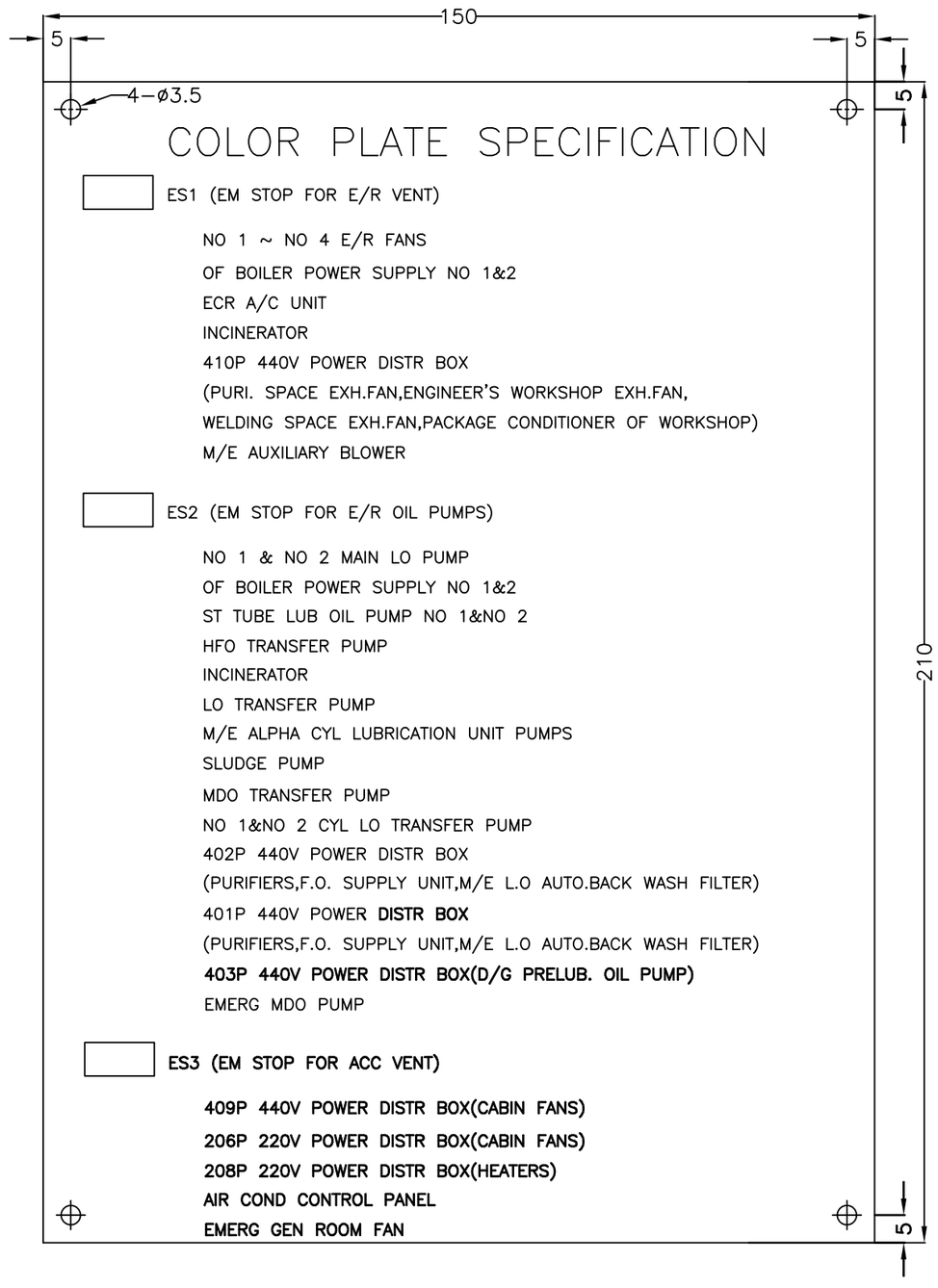
NAME PLATE		SYMBOL	NAME				SWITCH TYPE	REMARKS
TYPE	QT.		NAME	1	2	3		
CS3	1	SHS	SPACE HEATER	OFF	——	ON	ASLW223620EA	
CS1	2	ELS	EARTH LAMP TEST	——	——	——	YW1B-M1E11B	
CS1	1	SP	ACB OPEN	——	——	——	YW1L-MF2E20Q7R	WITH COVER
CS1	1	ST	ACB CLOSE	——	——	——	YW1L-MF2E10Q7G	WITH COVER
CS1	1	TEST	LAMP TEST	——	——	——	YW1B-M1E10B	
CS1	1	TS	EG SEQUENCE TEST	——	——	——	YW1B-M1E01B	
CS1	1	BS	BUZZER STOP	——	——	——	YW1B-M1E10B	
CS5	1	BZ	BUZZER	——	——	——	UZ6-12	
CS3	1	SHS2	SPACE HEATER	OFF	——	ON	ASLW223620EA	
CS1	1	WL	POWER ON	——	——	——	YW1P-1BEM45W	
CS1	1	RL	TRIP	——	——	——	YW1P-1BEM45R	
CS1	1	GL	RUNNING	——	——	——	YW1P-1BEM45G	
CS1	1	2SP	STOP	——	——	——	YW1B-M1E01R	WITH COVER
CS1	1	2ST	START	——	——	——	YW1B-M1E10G	WITH COVER
CS3	1	SW1	MODE SELECT	MANUAL	——	AUTO	YW1S-2E11	

NP NO.180 QT. 1

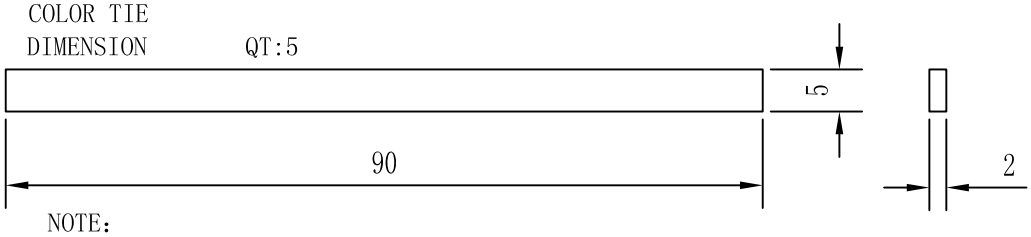
I. DESCRIPTION	II. LANGUAGE
	Fig.1 [A] A: ENGLISH
	III DEMENSION

NOTE:
1.MATERIAL:ACRYLIC
LETTER: BLACK(REVERSE ENGRAVED)
GROUND: WHITE
2.GROUP
REF NAMEPLATE
(CIRCUIT BREAKER)
OR SPECIFICATION LIST

I				
COLOR	POSITION	NAME	NAME	GROUP (SEE NOTE:2)
	(1)	COLOR PLATE SPECIFICATION		
RED	(2)	ES1 (EM. STOP FOR E/R VENT)		*11(ES1)
ORANGE	(3)	ES2 (EM. STOP FOR E/R OIL PUMPS)		*12(ES2)
PINK	(4)	ES3 (EM. STOP FOR ACC. FANS)		*13(ES3)

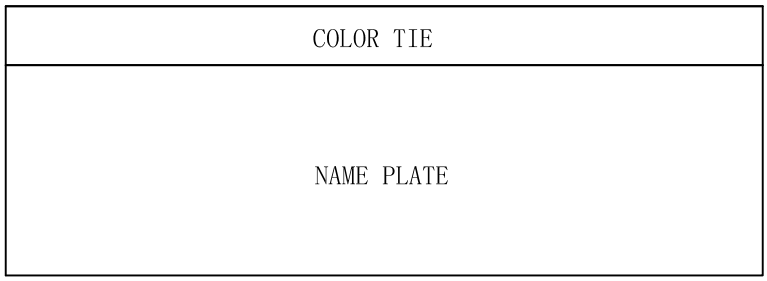


COLOR TIE
DIMENSION QT:5



NOTE:
*11--EMERGENCY STOP 1
*12--EMERGENCY STOP 2
*13--EMERGENCY STOP 3
*21--PREFERENTIAL TRIP 1ST

INSTALLATION MODE:



TEST

THE PUSHBUTTON SWITCH "EG SEQUENCE TEST" IS PROVIDED INSIDE PANEL.

35

90

NP TYPE:U16
NP No.:181
QT:1
USE FOR EG SEQUENCE TEST PBS

MATERIAL	———	ACRYLIC
LETTER	———	BLACK(REVERSE ENGRAVED)
GROUND	———	WHITE

WARNING

BUS TIE BREAKER ON ESB IS TRIPPED BY PRESSING THE PUSHBUTTON SWITCH "EG SEQUENCE TEST" , THEN AFTER ESB BUS BLACKING OUT FOR 20 SEC. , E/G START AND POWER IS SUPPLIED BY E/G. THIS TEST CAN BE DONE ONLY IN "AUTO" MODE.

50

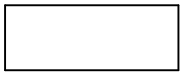
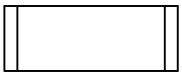
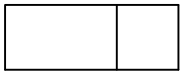
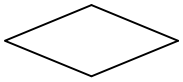
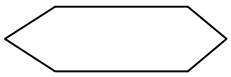
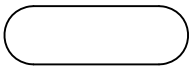
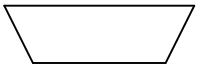
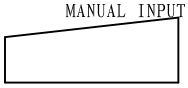
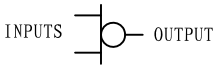
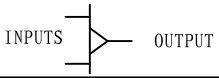
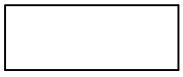
90

NP TYPE:U15
NP No.:182
QT:1
USE FOR EG SEQUENCE TEST PBS

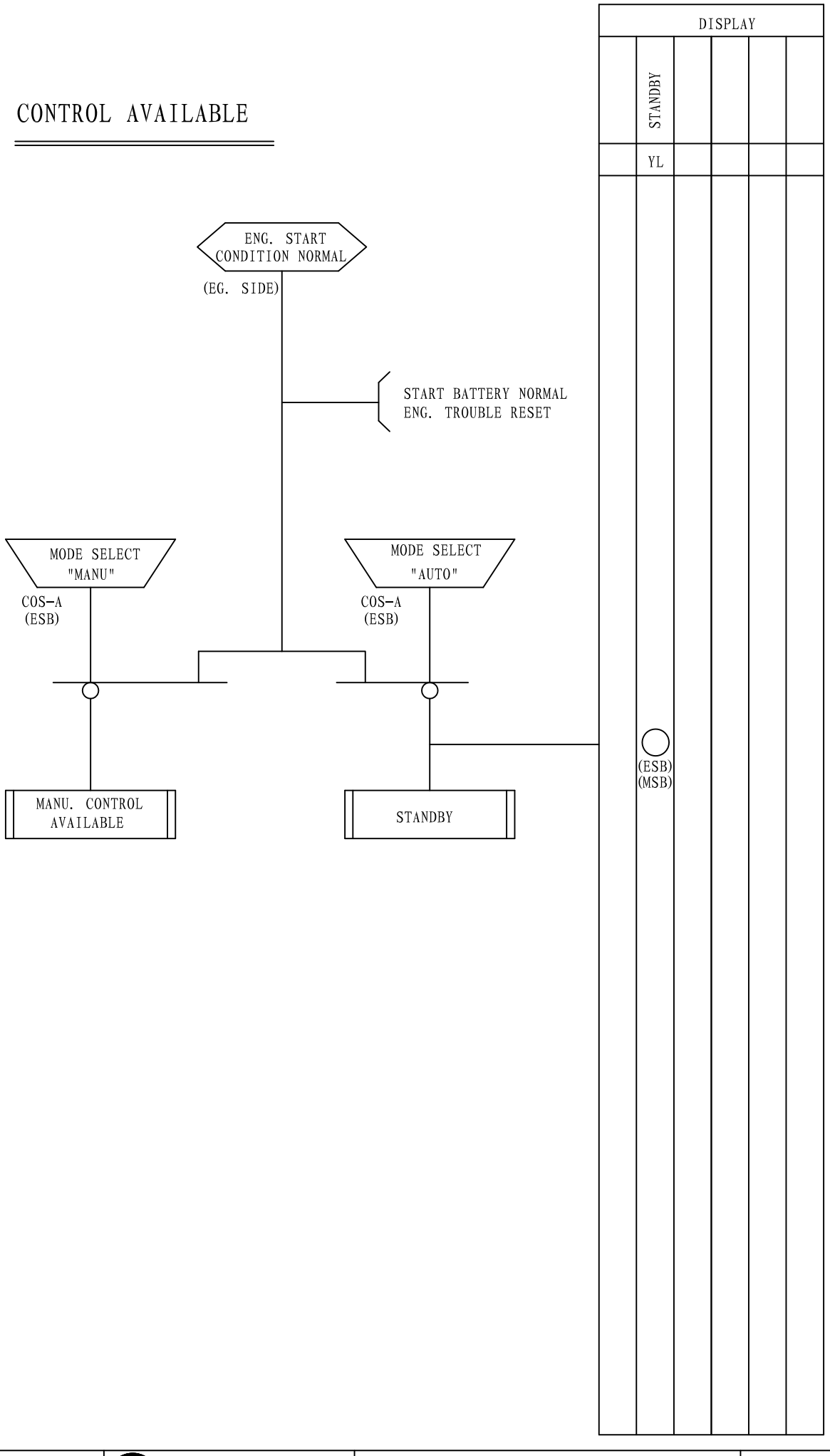
MATERIAL	———	ACRYLIC
LETTER	———	RED (REVERSE ENGRAVED)
GROUND	———	WHITE

FLOWCHART SYMBOL

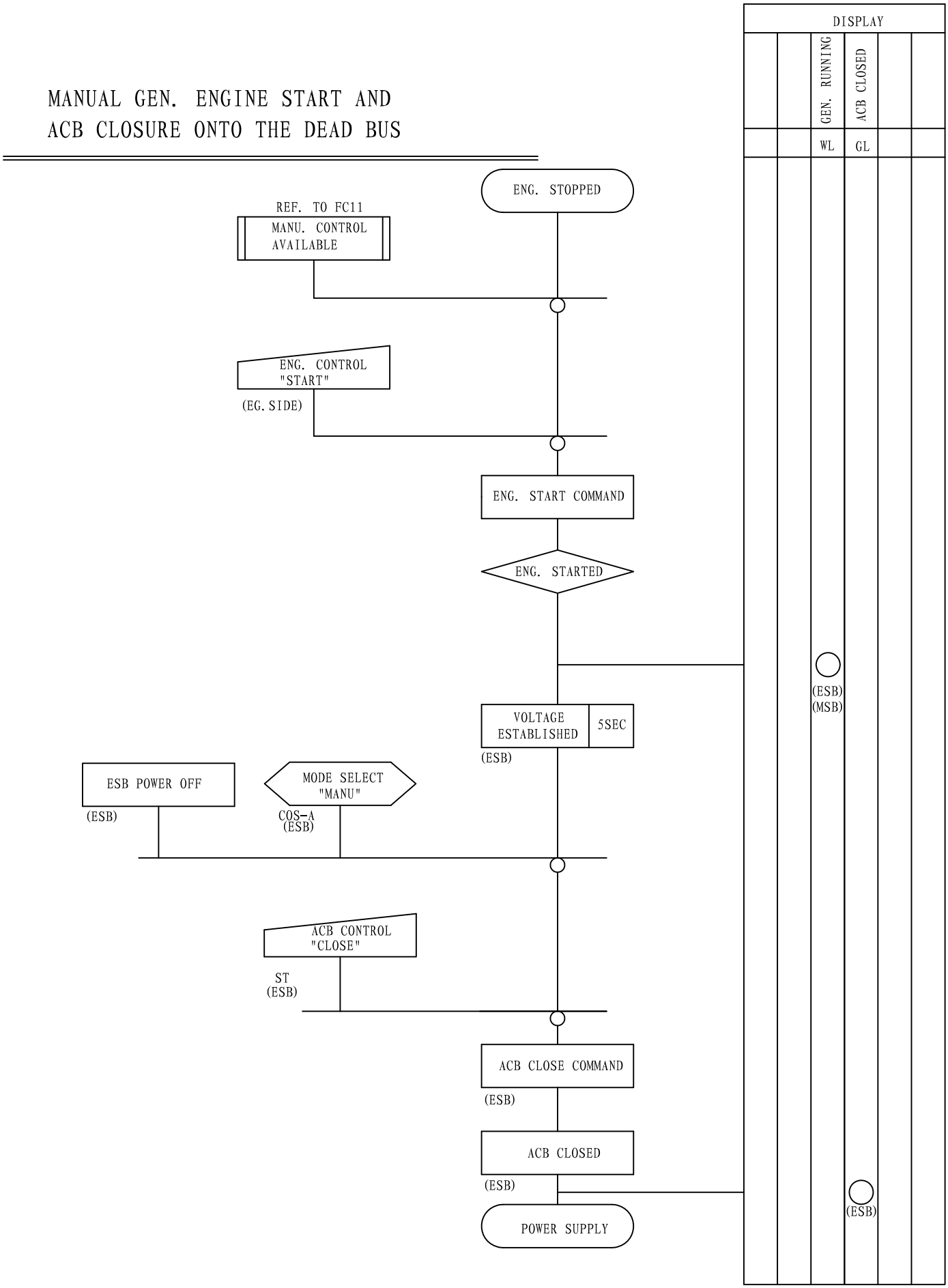
NOTE: THESE SYMBOLS ARE SHOWN IN ACCORDANCE WITH JIS C-6270

SYMBOL	DESCRIPTION
PROCESS 	USED TO INDICATE ANY FORM OF INTERNAL PROCESSING MANIPULATION OTHER THAN DECISIONS. AN IDENITIFYING LEGEND APPEARS IN THE BOX.
PREDEFINED PROCESS 	USED TO INDICATE THE PREDEFINED COMMAND GROUP SUCH LIKE SUBROUTINE IN ANOTHER PROGRAM OR ORDERED PROCESS STEPS CONSIST OF SOME OPERATIONS.
CAUSE 	USED TO INDICATE CONDITIONS. AN IDENTIFYING LEGEND AND A SET VALVE OF VALUES APPEAR IN THE LEFTHAND AND RIGHTHAND COLUMNS OF THE BOX, RESPECTIVELY.
DECISION 	USED TO INDICATE DECISION-TYPE OPERATIONS THAT DETERMINE WHICH OF A NUMBER OF ALTERNATE PATHS IS TO BE FOLLOWED. AN IDENTIFYING LEGEND APPEARS IN THE BOX.
PREPARATION 	USED TO INDICATE ANY PRESET CONDITION REQUIRED. AN IDENTIFYING LEGEND APPEARS IN THE BOX.
TERMINAL 	USED TO INDICATE THE STARTING, STOPPING, AND ENDING POINTS OF THE PROCESS STEPS. AN IDENTIFYING LEGEND APPEARS IN THE BOX
MANUAL OPERATION 	USED TO INDICATE POINTS IN A FLOWCHART WHERE HUMAN INTERVENTION IS REQUIRED. AN IDENTIFYING LEGEND APPEARS IN THE BOX
MANUAL INPUT 	USED TO INPUT A SIGNAL PRODUCED BY MANUAL OPRATION. AN IDENTIFYING LEGEND APPEARS IN THE BOX.
ANNOTATION 	USED FOR ADDITION OF DESCRIPTIVE COMMENTS OR EXPLANATORY NOTES.
"AND"OPERATION 	USED TO INDICATE "AND" OPERATIONS; THE OUPUT IS PRESENT IF ALL INPUTS ARE PRESENT, OTHERWISE THERE IS NO OUTPUT.
"OR" OPERATION 	USED TO INDICATE "OR" OPERATIONS; THE OUTPUT IS PRESENT IF ONE OR MORE INPUTS ARE PRESENT.
FLOW LINE	USED TO CONNECT EACH BOX AND SYMBOL IN A FLOWCHART.
CONNECTOR 	USED TO INDICATE CONNECTION OF FLOWCHART TO OR FROM ELSEWHERE WITH SAME NUMBER. *; NUMBER 1, 2, ---N.
ALARM 	USED TO INDICATE LIGHTING OR FLASHING OF ALARM LAMP WHICH MAY OR MAY NOT BE ASSOCIATED WITH SOUNDING OF THE AUDIBLE ALARM. AN IDENTIFYING LEGEND APPEARS IN THE FLOWCHART.
INDICATOR LAMP 	 INDICATES THE LAMP IS ALIGHT.  INDICATES THE LAMP IS DARK. AN IDENTIFYING LEGEND APPEARS AT THE TOP OF THE COLUMN.
 (*)	*: EXPLANATORY NOTE AFFIXED TO EACH SYMBOL INDICATES DEVICE AND LOCATION (IN PARENTHESIS) OF THE CONTROL ETC.

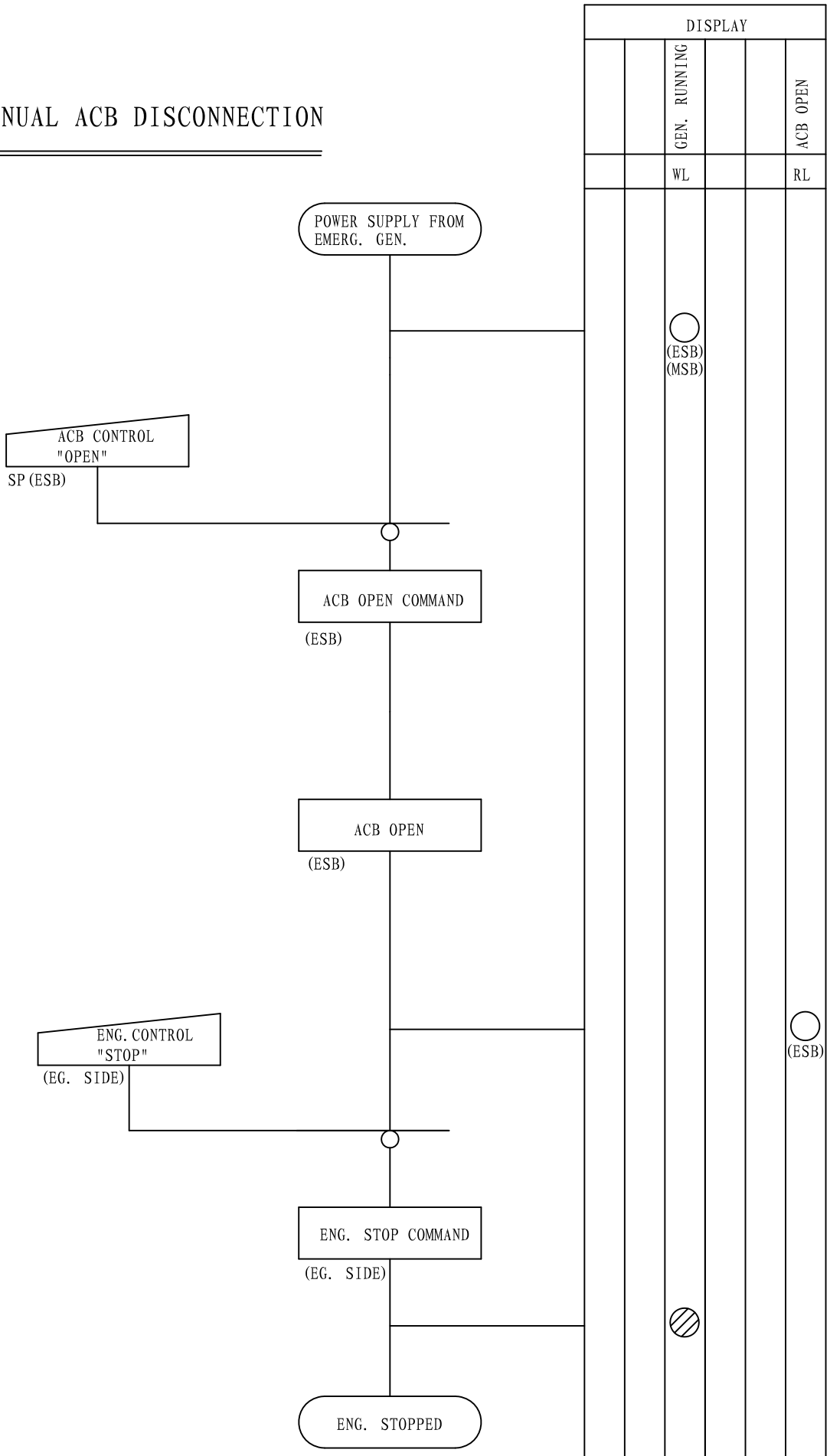
CONTROL AVAILABLE



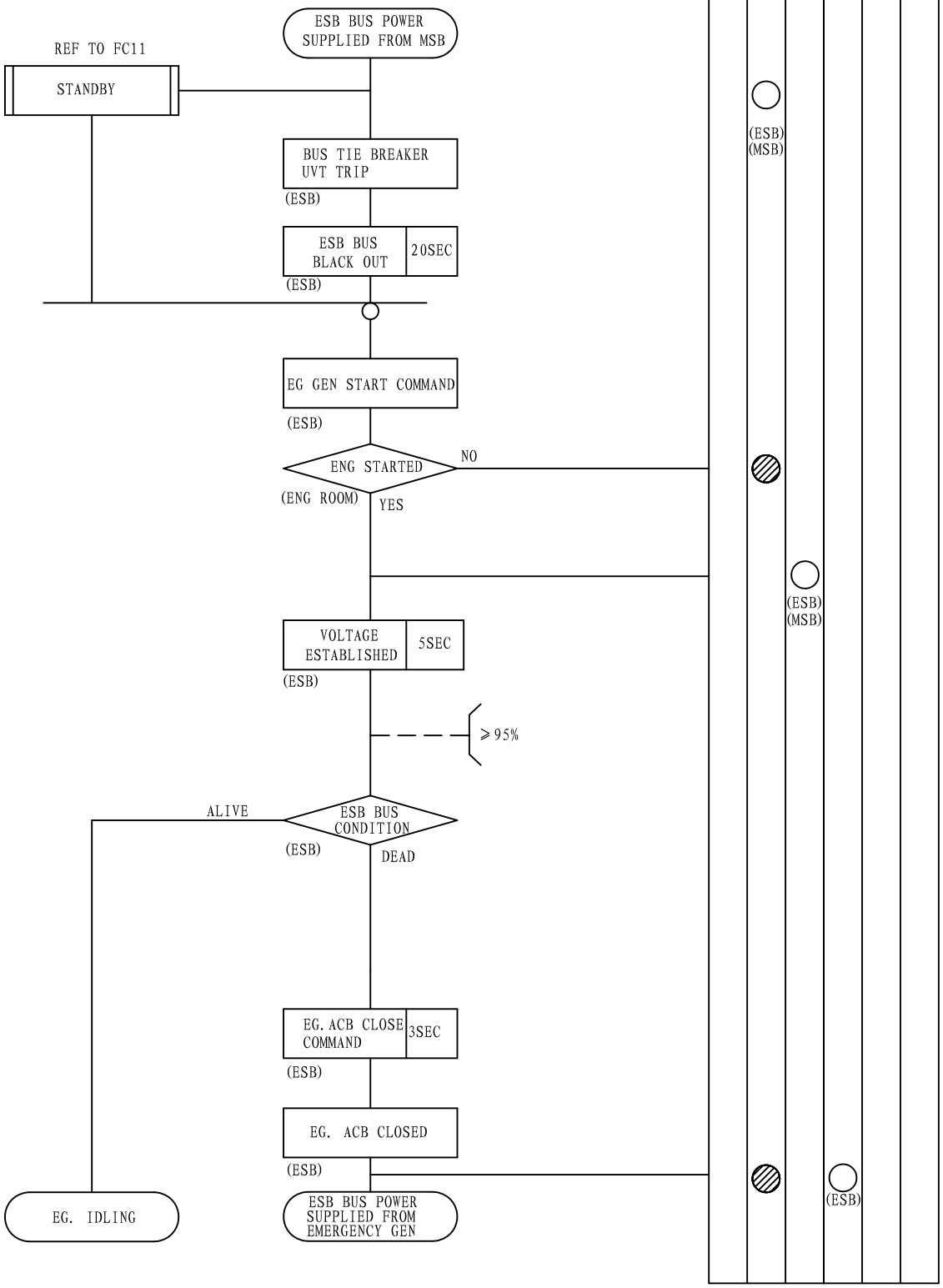
MANUAL GEN. ENGINE START AND ACB CLOSURE ONTO THE DEAD BUS



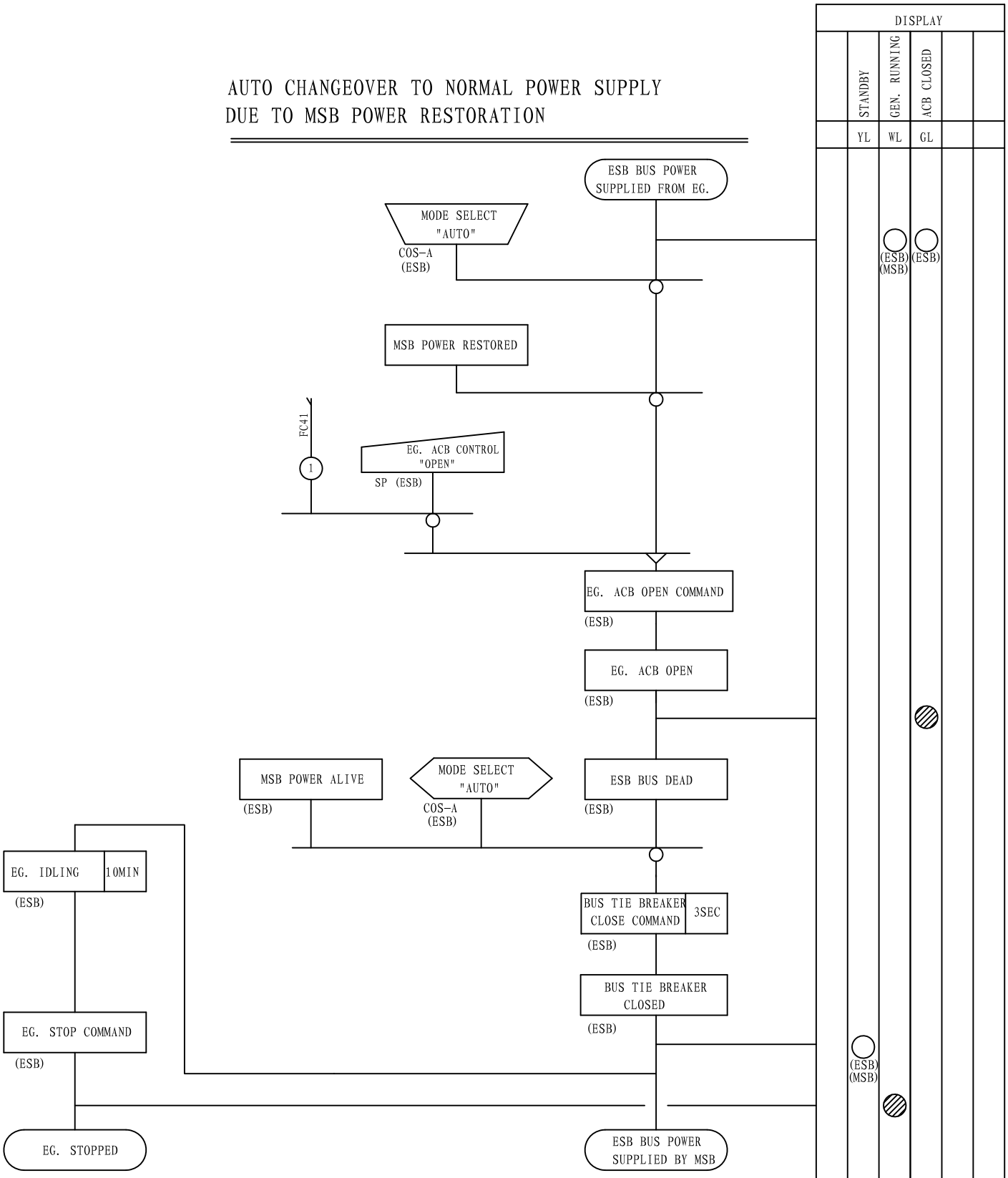
MANUAL ACB DISCONNECTION



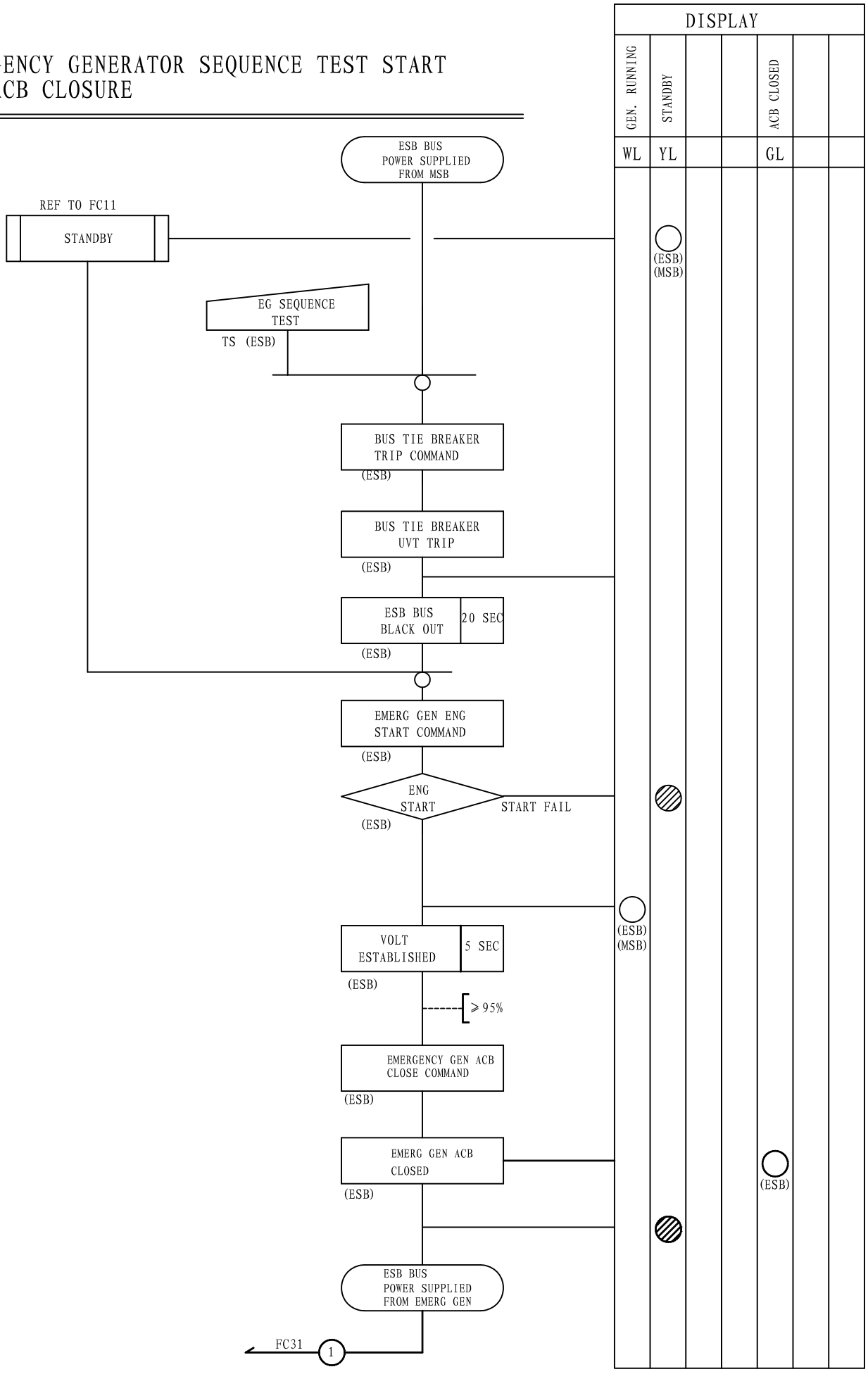
EG. AUTO START DUE TO BLACK OUT AND
EG. ACB CLOSURE ONTO THE DEAD BUS

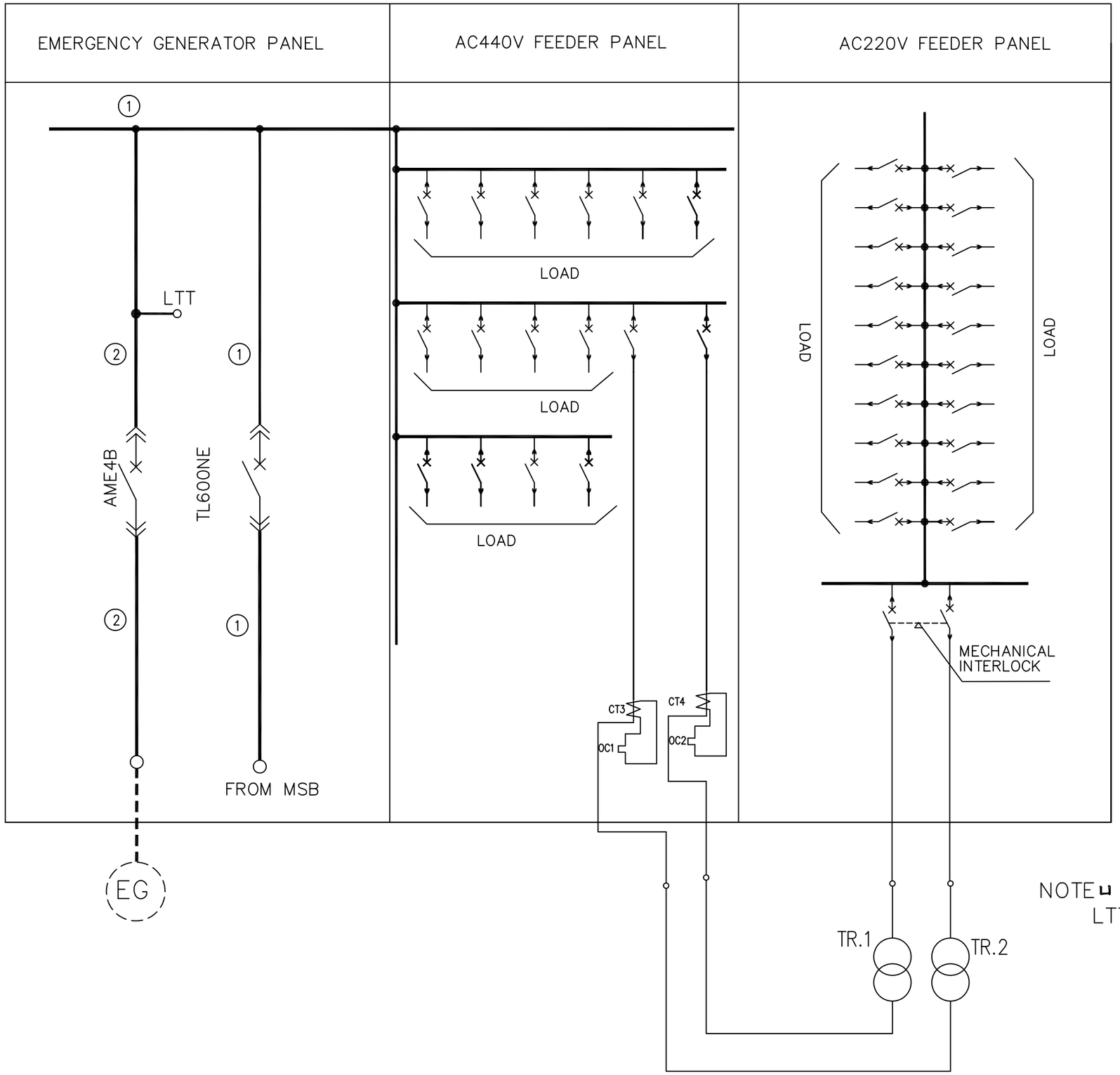


AUTO CHANGEOVER TO NORMAL POWER SUPPLY DUE TO MSB POWER RESTORATION



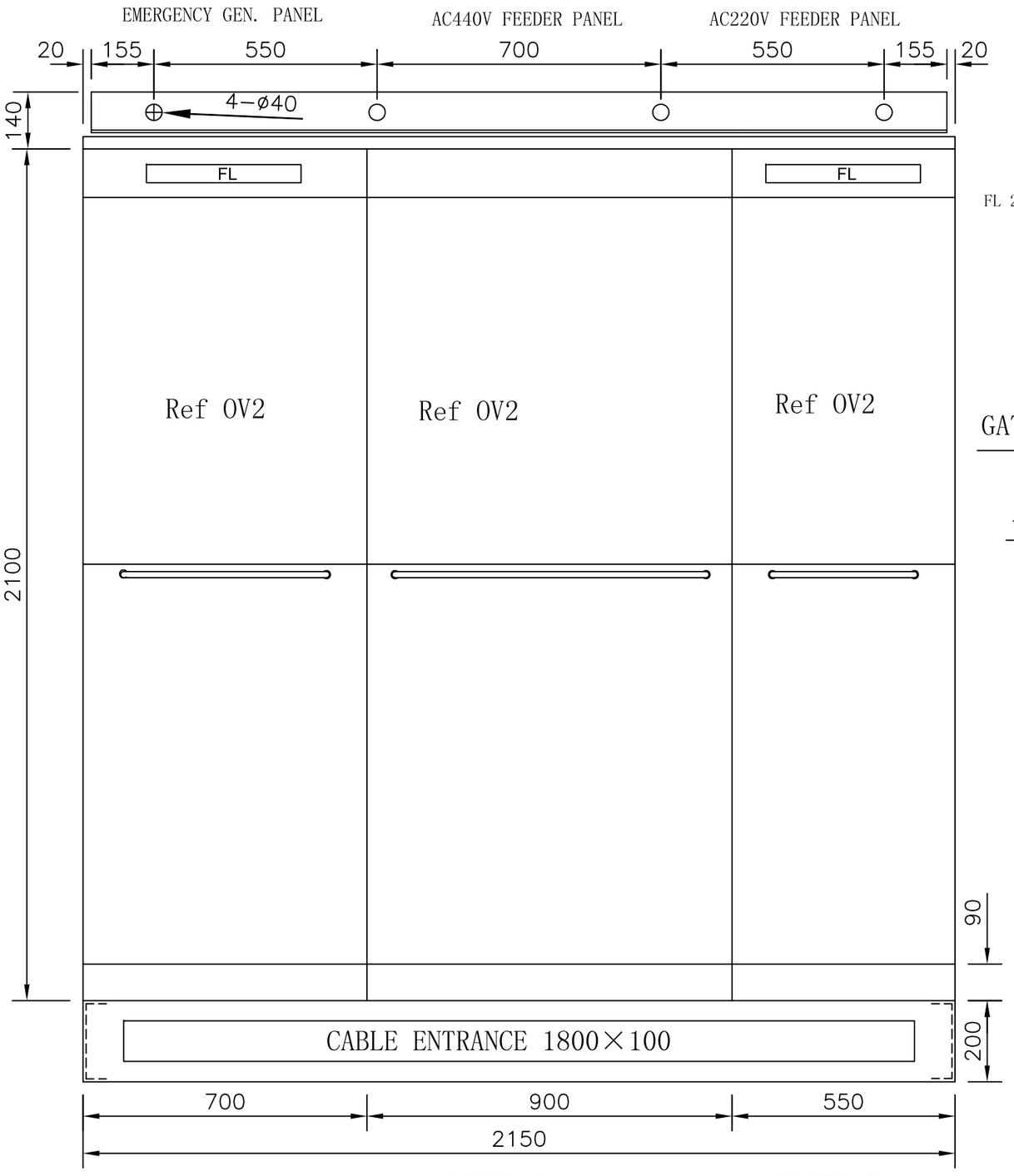
EMERGENCY GENERATOR SEQUENCE TEST START AND ACB CLOSURE



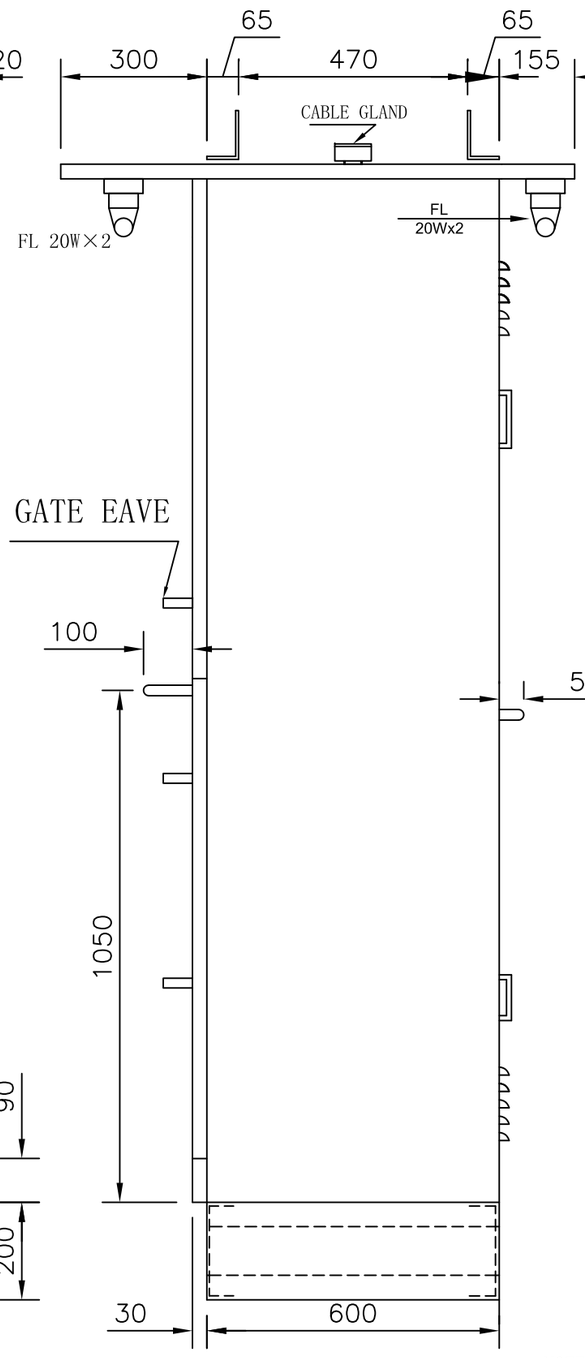


	BUSBAR SCALE
①	50x5
②	30x6

NOTE␣
LTT—LOAD TEST TERMINAL



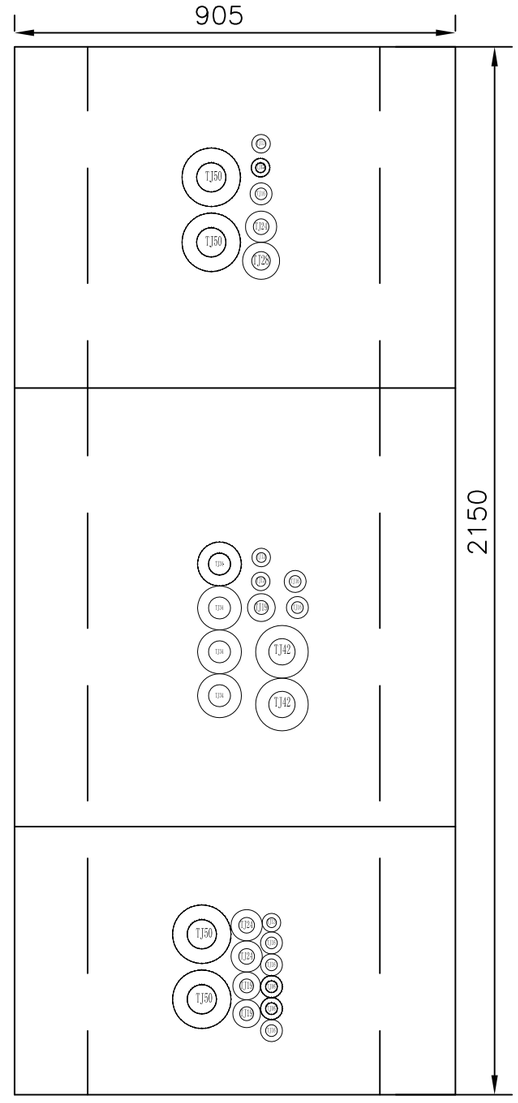
FRONT VIEW



RIGHT VIEW

CABLE GLAND

TYPE / PANEL NAME	PANEL A	PANEL B	PANEL C	TOTAL
TJ13	EG2, EG3,	EGRF-1, EGRF-2	CWPH	5
TJ16	1CDP5	1CDP-2, FHC	BCP, FCU2, EVT2, NLP-2, SLP-2	9
TJ19		EVT1	02EL, RDB-E	3
~~TJ24~~	ES_JB-2		05EL, 201P-2,	3
TJ28	EG4			1
TJ34		5TM, 6TM, EFP, 4ERF		4
TJ42		2SG1A, 1B		2
TJ50	EG1A, 1B		5TM-1, 6TM-1	4



PLANFORM VIEW

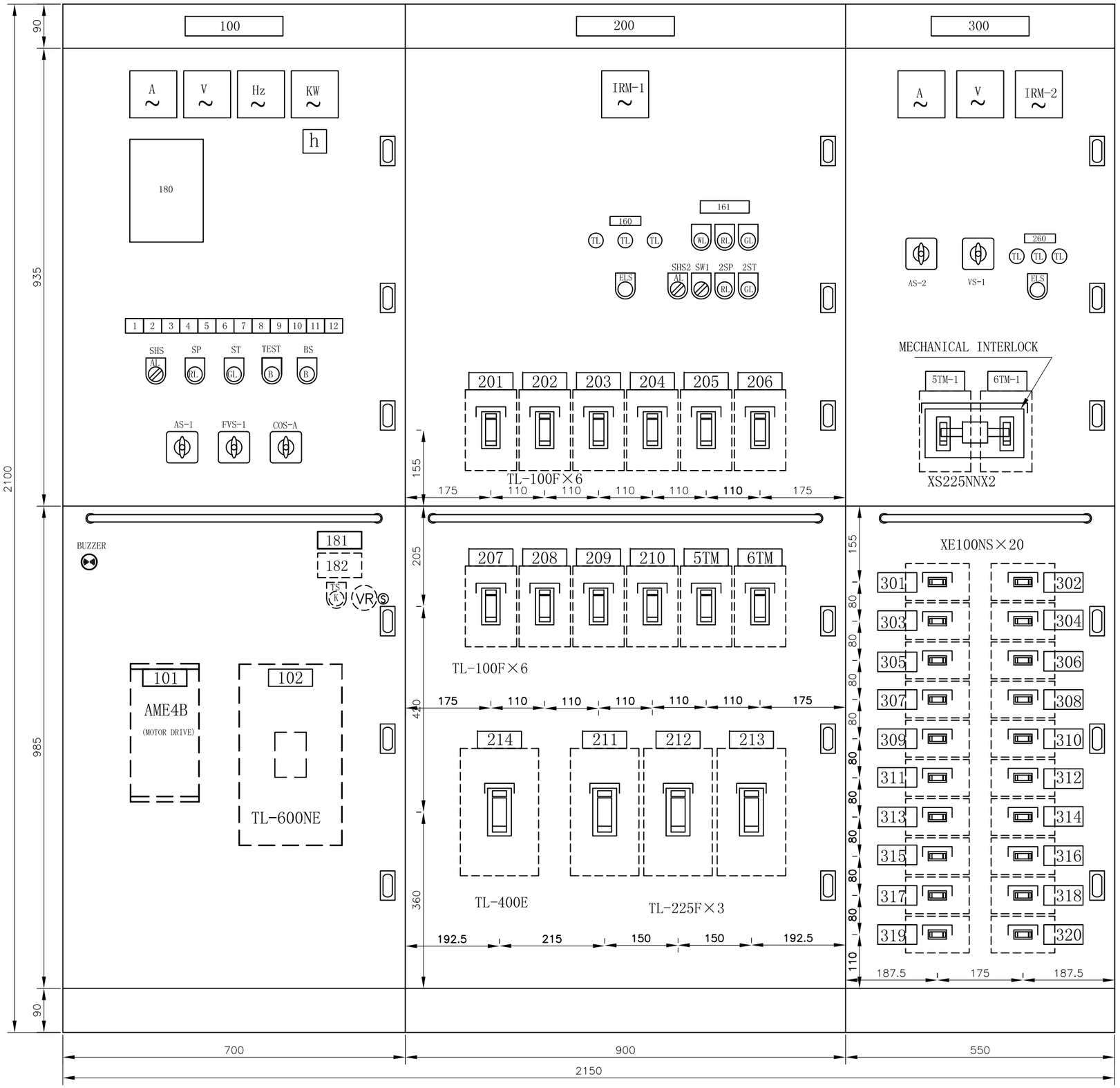
NOTE:
1. THE PLASTIC PLATE SHOULD BE INSTALLED TO PREVENT TOUGHING ALIVE BUS BAR WHEN REMOVE THE REAR COVER
2. DEGREE OF PROTECTION: IP22 (ADD GATE EAVE FOR EACH MCCB)

A B C D E F G H I	TERASAKI	EMERGENCY SWITCHBOARD	
		OUTLINE VIEW	OV1
			1-25

EMERGENCY GENERATOR PANEL

AC440V FEEDER PANEL

AC220V FEEDER PANEL



PANEL A

PANEL B

PANEL C

180: NAMEPLATE (COLOR PLATE)
181: NAMEPLATE (EG SEQUENCE TEST PBS)
182: EG SEQUENCE PBS (WARNING)

1. GENERATOR RUNNING(WL)
2. DC24V SOURCE (WL)
3. EMERGENCY STOP SOURCE (WL)
4. STANDBY (YL)
5. BUS TIE OPEN (RL)
6. BUS TIE CLOSED (GL)
7. AC440V LOW INSULATION (RL)
8. AC220V LOW INSULATION (RL)
9. ACB ABNORMAL TRIP (RL)
10. EMERGENCY STOP CIRCUIT CONTROL SOURCE FAILURE (RL)
11. DIESEL OIL LOW PRESSURE (RL)
12. EMERG. STOP LINE FAULT (RL)

SHS, SHS2: SPACE HEATER SWITCH

SP: ACB OPEN

ST: ACB CLOSE

BS: BUZZER STOP

TS: EG SEQUENCE TEST PUSHBUTTON

TEST: LAMP TEST PUSHBUTTON

ELS: EARTH LAMP TEST

NOTE:

Ⓢ SUPPLIED BY SHIPYARD

A	B	C	D	E	F	G	H	I

TERASAKI

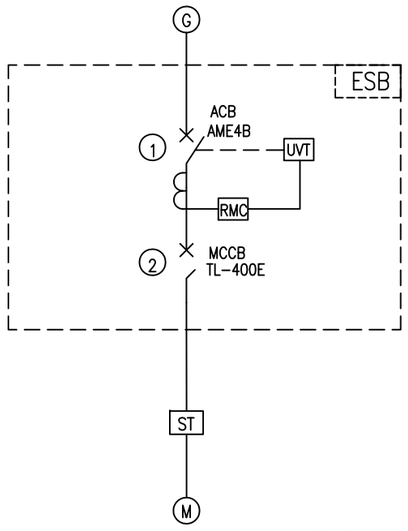
EMERGENCY SWITCHBOARD

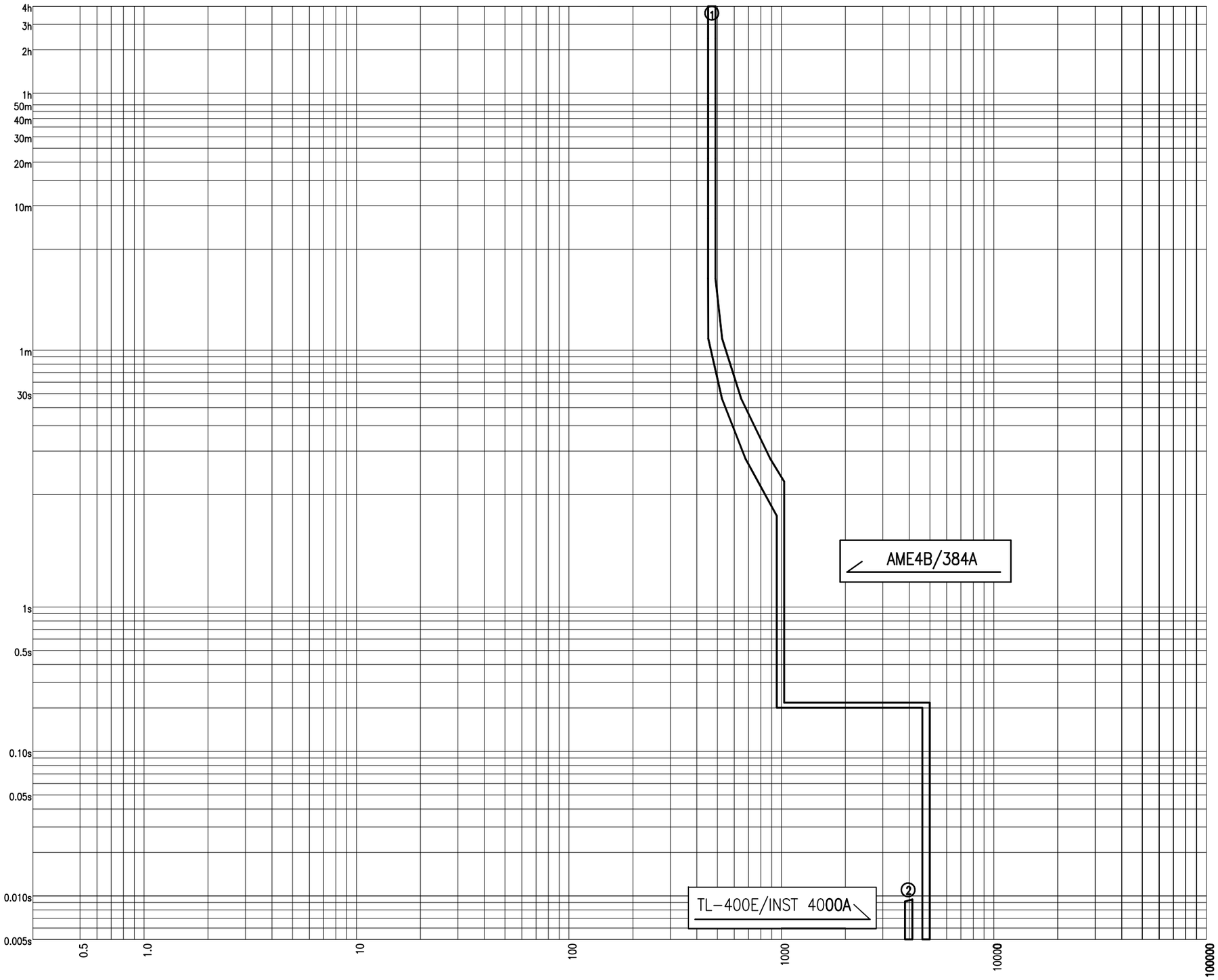
OUTLINE VIEW

OV2

1-26

EM'CY GEN.ACB VS
NO.2 STEERING GEAR





NO.	CIR. NO.	MCCB NAME	RAT. (A)	LONG TIME		SHORT TIME			INST.
				P.C.SET	TIME(SEC)	P.C.SET	TIME(SEC)	TIME(SEC)	
①	101	AME4B	384	423(A)	SEE CURVE	960(A)	SEE CURVE	0.2	384X12 =4608(A)
②	214	TL400E	–	–	–	–	–	–	4000(A)

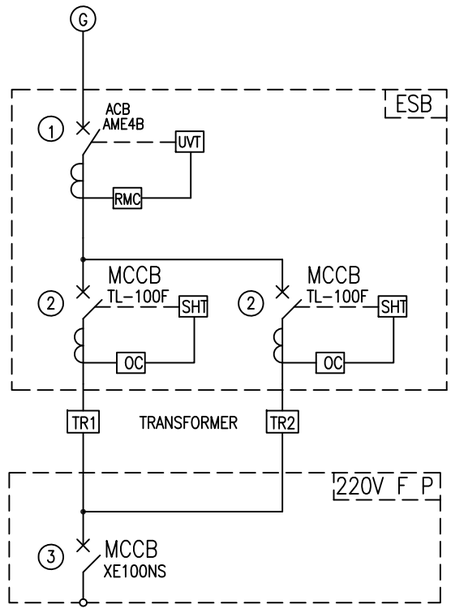
A B C D E F G H I

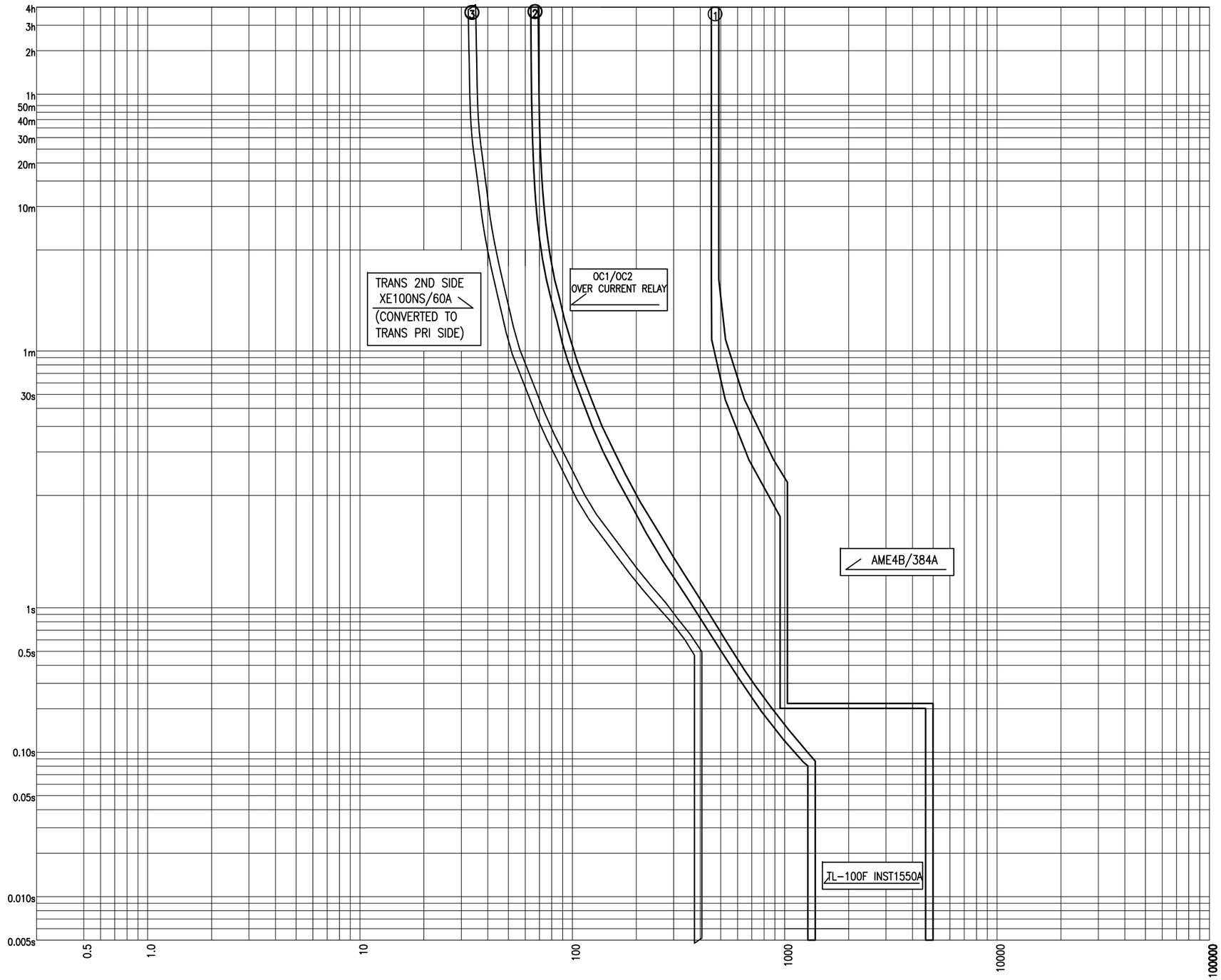
TERASAKI

TIME-CURRENT CHARACTERISTICS

TC1
1-27

EM'CY GEN. ACB VS
EM'CY TRANS. MCCB





NO.	CIR. NO.	MCCB NAME	RAT. (A)	LONG TIME		SHORT TIME			INST.
				P.C.SET	TIME(SEC)	P.C.SET	TIME(SEC)	TIME(SEC)	
①	101	AME4B	384	423(A)	SEE CURVE	960(A)	SEE CURVE	0.2	4608(A)
②	5TM 6TM	TL-100F	–	OC	SEE CURVE	–	–	–	1550(A)
③	315	XE100NS	60	–	–	–	–	–	–

A	B	C	D	E	F	G	H	I

TERASAKI

TIME-CURRENT CHARACTERISTICS

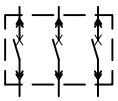
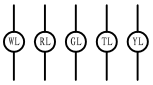
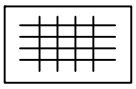
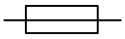
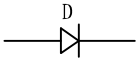
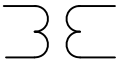
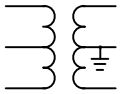
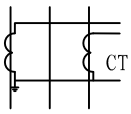
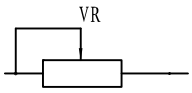
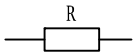
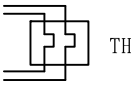
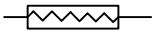
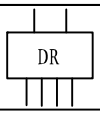
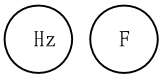
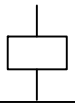
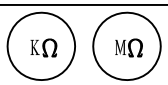
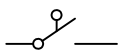
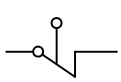
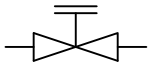
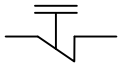
TC2
1-28

VOL.2

NAMEPLATE		NO.	NAME	FUSE			REMARKS
TYPE	QT.			TYPE	RAT (A)	QT.	
U20	1	F201	GENERATOR SOURCE	HRC	25	3	
U20	1	F202	UNDERVOLTAGE RELAY	HRC	2	3	
U20	1	F203	METER（GENERATOR）	HRC	2	3	
U20	1	F204	ACB CONTROL	HRC	4	2	EG01
U20	1	F206	SPACE HEATER	HRC	6	2	
U20	1	F225	ACB CONTROL CIRCUIT(MOTOR SIDE)	HRC	4	2	
U20	1	F207	EMERGENCY STOP CIRCUIT SOURCE(DC24V)	HRC	2	2	
U20	1	F208	AC450V BUSBAR SOURCE	HRC	25	3	
U20	1	F209	METER（AC440V BUS）	HRC	2	2	
U20	1	F210	EARTH MONITOR（AC440V）	HRC	2	3	
U20	1	F211	EMERGENCY STOP CIRCUIT SOURCE	HRC	10	2	EG11
U20	1	F212	ALARM CONTROL CIRCUIT (DC SOURCE)	HRC	6	2	
U20	1	F213	RELAY CONTROL CIRCUIT (DC SOURCE)	HRC	6	2	
U20	1	F331	EMERGENCY STOP CIRCUIT AUX. RELAY	HRC	4	2	
U20	1	F215	BUS-TIE CONTROL CIRCUIT (MSB SIDE)	HRC	4	2	
U20	1	F226	BUS-TIE CONTROL CIRCUIT(MOTOR SIDE)	HRC	4	2	EG12
U20	1	F221	AC220V BUS SOURCE	HRC	20	3	
U20	1	F222	METER (220V BUS)	HRC	2	3	
U20	1	F223	CANOPY LIGHT	HRC	4	2	2F11
U20	1	F224	EARTH MONITOR (AC220V)	HRC	2	3	
U20	1	F227	EMERGENCY STOP LINE FAULT DETECTOR (AC220V)	HRC	6	2	1F11
U20	1	F228	FAN FOR EMER. GEN. RM. MAIN CONTROL CIRCUIT	HRC	6	2	EG14
U20	1	F229	FAN FOR EMER. GEN. RM. CONTROL CIRCUIT	HRC	4	2	

DEVICE NUMBER	TYPE	VOLTAGE	QT.	MANUFACTURE	REMARKS
E52A,B52EX,5ETX-1,E18X,E19X,E20X, 2R1	SH-4 4a4b	AC220V	7	FUJI	
5ETX	SH-4 2a2b	AC440V	1	FUJI	
E32T, E42T, E52T, E52CT, E82T2,B52CT,41T, E33T	DAA51 CM24	DC24V	8	CARLO	
E30T	DMB51CW24	DC24V	1	CARLO	
E84X, E43A, B52EY, 84MAX, E43AX, E03X, E11X, E11A, E11A1， E12X, E12A,E12A1, E13A,E13A1, E14X,E14X1, E15A, E15A1, E16A, E16A1, E31X,E33X,E09X, E60X, E61X, E62X， E84X,E17A,E17A1,E17B,E33XA	RU4S-D-D24	DC24V	31	IDEC	
B94EX, E10X, B52EX-1,2R2	RU4S-A220	AC220V	4	IDEC	

GRAPHIC CODE

GRAPHICS SYMBOL	NAME	GRAPHICS SYMBOL	NAME	GRAPHICS SYMBOL	NAME
	ACB、MCCB		INDICATING LAMP		PUSH BUTTON OPEN CONTACT
	CHANGEOVER SWITCH		FLUORESCENT LAMP		PUSH BUTTON CLOSE CONTACT
	FUSE		DIODE		EARTH CONNECTION
	TRANSFORMER		GENERATOR		CHANGEOVER SWITCH OPEN CONTACT
	VOLTAGE TRANSFORMER		GOVERNOR MOTOR		NORMALLY OPEN CONTACT
	CURRENT TRANSFORMER		VARIABLE RESISTOR		NORMALLY CLOSE CONTACT
	TIMER RELAY		RESISTOR		TIMER RELAY NORMALLY OPEN CONTACT
	THERMAL		SHUNT		TIMER RELAY NORMALLY CLOSE CONTACT
	PHASE SEQUENCE RELAY		SYNCHROSCOPE		CHANGEOVER SWITCH CLOSE CONTACT
	POWER OFF TIMER RELAY		VOLTMETER		
	REVERSE POWER RELAY		AMMETER		
	STATOR WINDING MONITOR		FREQUENCY METER		SOCKET CONNECTORS
	CONTACTOR & RELAY		POWER FACTOR METER		TERMINAL BLOCKS
	POWER TRANSDUCER		INSULATION RESISTANCE METER		LIQUID LEVEL SWITCH (NO)
	RUNNING HOUR METER		KILOWATT METER		LIQUID LEVEL SWITCH (NC)
	UNDER VOLTAGE TRIP		KILOWATT HOUR METER		ELEC. MAG. VALVE
	SHUNT TRIP		PRESSURE SWITCH		

AC440V BUS
R
S
T
CT1x2
500/5A
10VA
1L1
1K3
1K1
0~400KW
RED LINE:240KW
KW
0~500A
RED LINE:384A
A
A01
A02
A04
A03
OFF IR IS IT
A021-600
AS-1
EG11
(AC220V)
BP
1
B03
B04
BUS
T-R
S-T
R-S
OFF
A262-600
FVS-1
0~600V
RED LINE:450V
V
55~65Hz
RED LINE:60Hz
Hz
A05
A06
PT1
60VAx2
450/220V
F203
A07
A08
A09
A10
A11
A12
F204
ACB OPENING CIRCUIT
A13
A18A
F225
A18
ACB CLOSING CIRCUIT
B52EX
(EG12)
84MAX
(EG11)
A15
A16
A17
U1
T1
T2
101(UVT)
U2
ACB
CPT1
AC450/220V
400VA
AXc1
EG:ACB
A23
SP
ACB OPEN
ST
ACB CLOSE
EG:ACB
ALc1
A26
E43A
(EG11)
E03X
(EG11)
A25
A27
P1
OFF
ON
ACB CONTROL CIRCUIT
P2
E
A24
E84X
E10X
E52A
E52A-1
A14
A19A
A19
14
13
A1
A2
h
a b
EG11
EG70
EG14
EG13
EG01
EG12
EG11
EG13
EG13
ACB AUXILIARY CONTACT
AME4B
101
EG01 AXa1 AXc1 AXb1
EG01 ALa1 ALc1 ALb1
KA
KB
KC
n
U
V
W
K
I
EMERGENCY GENERATOR
240KW 384A
AC450V 60Hz 3∅ 3W
EG
Un:AC450V
SET:0.95
TIME SET:3S
RMV-132D
F201
F202
A30
A31
A32
A33
A34
A35
B25
B26
P
N
A37
A39
A38
E82T2
E84X
E52T
10/5SEC
10/1SEC
EG11
(DC24V)
VR
S
A49
A50
TB1
S SUPPLIED BY SHIPYARD
2F11
(AC220V)
SIS
F206
A44
A45
A46
A48
A47
OFF
ON
B3
B4
A3
A4
SPACE
HEATER
OL
SPACE HEATER
220V 100W
PANEL A
EMERGENCY GENERATOR PANEL
EG01
2-4
TERASAKI
A B C D E F G H I

AC440V BUS
R
S
T
F 208
PT2
450/220V
60VA
F 209
B01
B02
U
V
U
V
B03
B04
R
S
BP1
EG01
(AC220V)
F 210
B05
B06
B07
B09
TL
160
EARTH LAMP
X1
X3
P
PE
IRM-1
B08
3
1
2
B51
B85
EG13
ELS
E
1
2
3
4
B10
B52EX
61
62
E
(EG12)
PANEL B
F 211
B11
B12
R
S
BV1
1F11
EMERGENCY STOP
CIRCUIT
CPT3
450/220V
200VA
F 331
B11AU
U
V
B12AV
BV2R
BV2S
R
S
BV2
1F11
EMERGENCY STOP
CIRCUIT AUX. RELAY
TB3
P
N
DC24V SOURCE
FROM 1CDP
F 212
P
N
DB3
EG13
(DC24V)
DIESEL OIL
TANK LOW
LEVEL
EMERG. G. E.
COMMON
FAILURE
E/G
READY
TO START
START BATT.
LOW
VOLTAGE
AUTO. CONTROL CIRCUIT
AUTO
STANDBY
E/G START/STOP AND ACB CLOSED
F 213
B25
B26
B28
B29
B30
B31
B32
B34
B35
B36
B37
B39
B40
B41
B43
B44
B45
B46
TB1
TB2
19
20
(EG70)
E33XA
1
9
E33T
15
18
17
8
9
10
COS-A
2
3
"AUTO"
M84X
5
9
(EG12)
B52EX
13
14
(EG12)
B52EY
5
9
B52EY
2
10
E43AX
5
9
E43A
B33
5
9
E52A
61
62
(EG01)
E42T
15
18
E30T
15
18
E10X
6
10
B52EX
43
44
(EG12)
E32T
15
16
E09X
6
10
B52EX-1
5
9
(EG12)
E82T2
15
18
(EG01)
E03X
6
10
84MAX
2
10
(EG11)
E52CT
15
18
B52EX
31
32
(EG12)
E43AX
6
10
A1
A2
13
14
E33XA
E33T
E33X
E31X
Y1
E30T
E34X
E43A
B52EY
84MAX
E43AX
E09X
E32T
E42T
E52CT
E03X
5SEC
MODE:Dr
3sec
600/600SEC
20SEC
10/3SEC
a|b
EG11
EG13
EG70
EG01
EG12
MANUAL
AUTO
2
1
3
6
5
7
10
9
11
14
13
15
EG11
EG11
COS-A
PANEL A
EMERGENCY GENERATOR PANEL
EG11
2-5
TERASAKI
A B C D E F G H I

AC440V BUS

R
S
T

102
BT

MCCB AUXILIARY CONTACT

	a		b	
EG12	AXa1	AXc1	AXb1	EG12
EG12	ALa1	ALc1	ALb1	

MCCB UVT CIRCUIT

F 215 C01

E52A 31 32 (EG01)

C03

TS 1 2

C04

BT:MCCB P2 UVT P1

CPT2
450/220V
400VA

C05

R S T
FROM MSB

F 226 C06

C11

BT:MCCB AXa1 AXc1

E43A 11 7 (EG11)

E52T C12 16 15 (EG01)

C13

B94EX 10 2

B52EX 54 53

B94EX 9 5

C14

C15

C09

14	A1	A1	14	14
B52EX-1	B52EX	B52CT	B94EX	M84X
13	A2	A2	13	13

10/3SEC

a	b	a	b	a	b	a	b	a	b
EG11		EG11	EG01	EG12		EG12		EG11	
		EG11	EG11				EG12		EG13
		EG12	EG11						
		EG13	EG13						

MCCB CLOSE CIRCUIT

BT:MCCB ALa1 AXc1 AXb1

B52CT 18 15

C16 C17

C B A

P1 OFF(RESET) ON

MCCB CLOSING CIRCUIT

P2 E

F

E

PANEL A

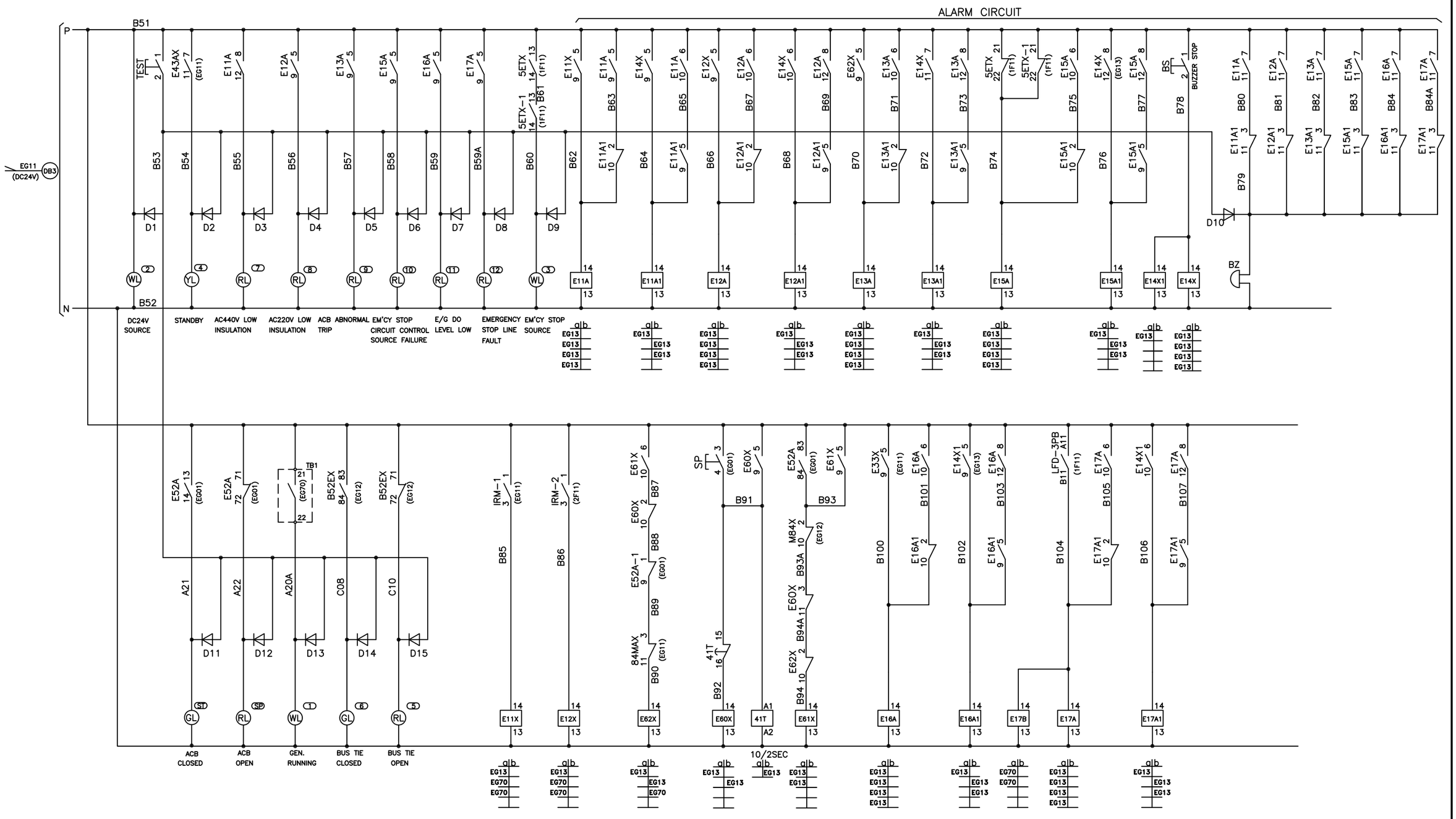
BUS TIE CONTROL CIRCUIT

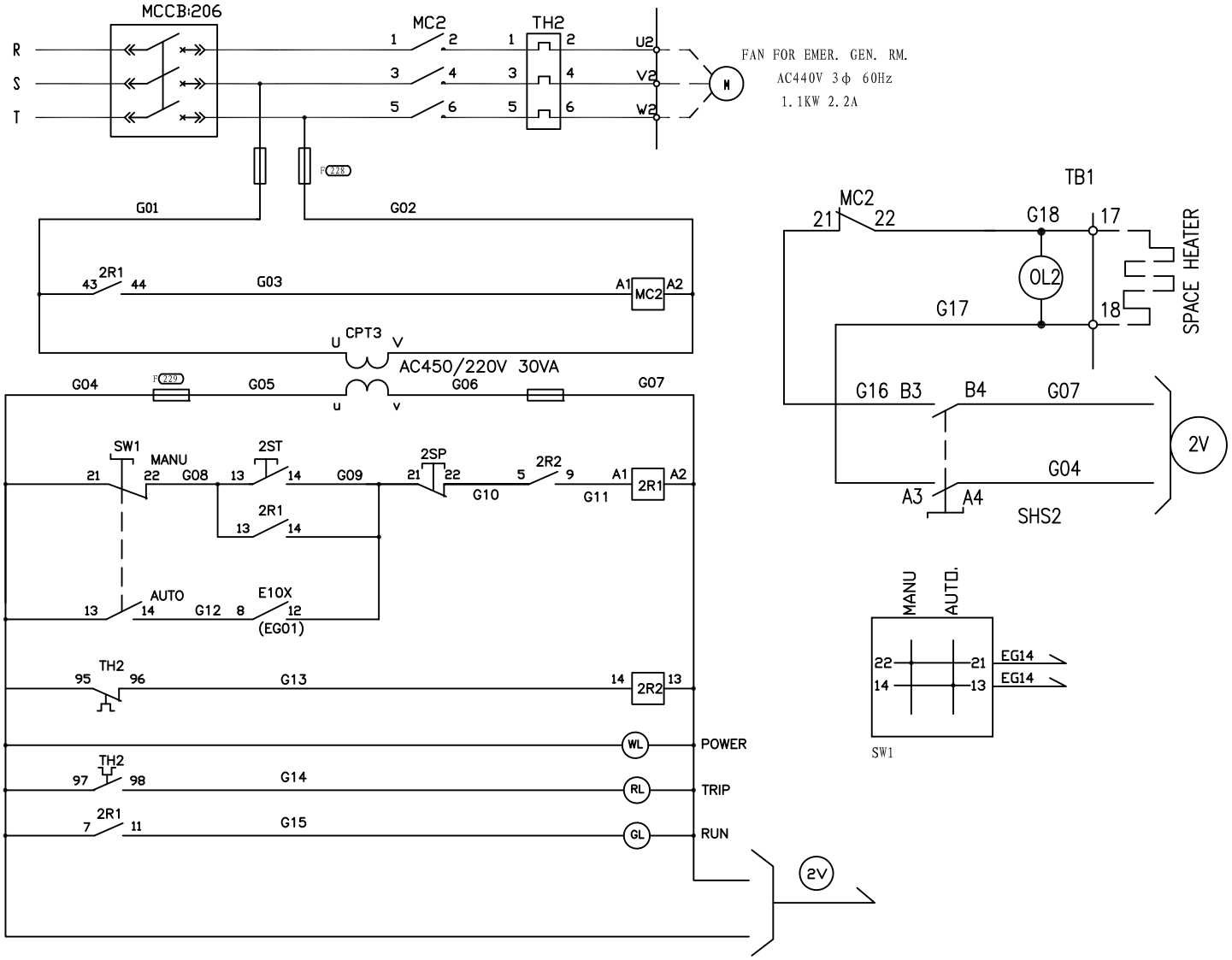
EG12

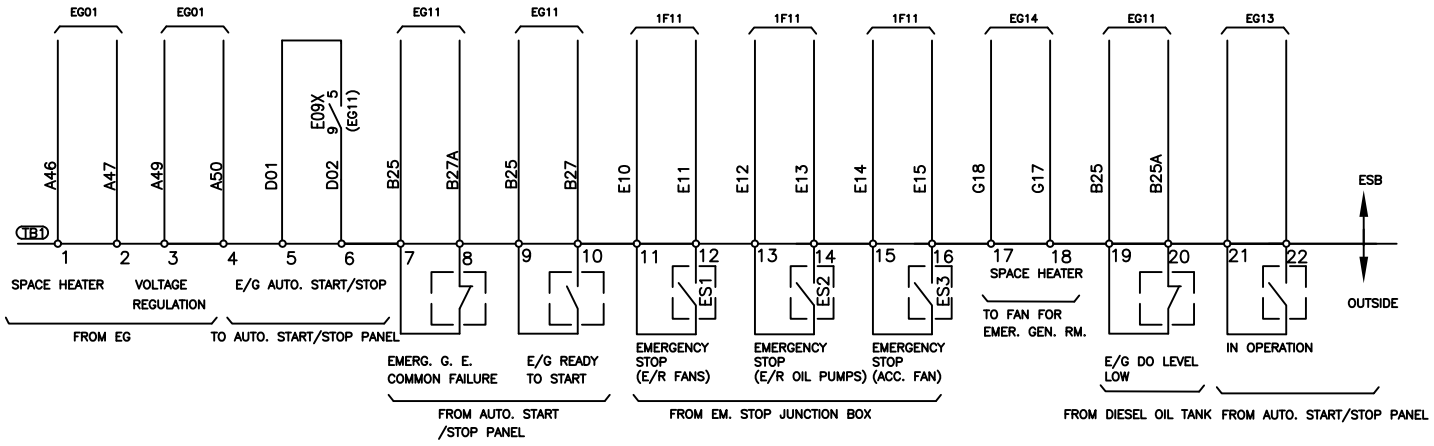
2-6

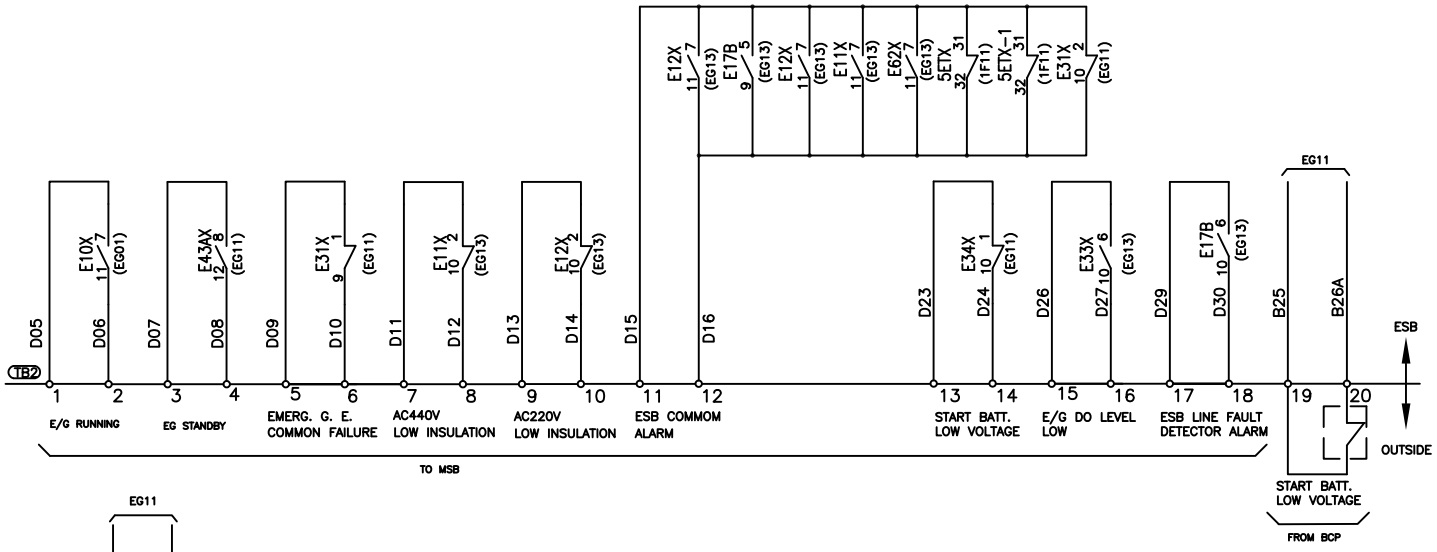
A B C D E F G H I

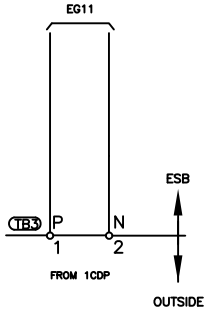
TERASAKI


ALARM CIRCUIT
P
N
EG11 (DC24V) DB3
B51
B52
B53
B54
B55
B56
B57
B58
B59
B59A
B60
B61
B62
B63
B64
B65
B66
B67
B68
B69
B70
B71
B72
B73
B74
B75
B76
B77
B78
B79
B80
B81
B82
B83
B84
B84A
TEST
E43AX
E11A
E12A
E13A
E15A
E16A
E17A
5ETX
5ETX-1
E11X
E14X
E12X
E62X
E61X
E60X
E52A
E52A-1
52EX
IRM-1
IRM-2
84MAX
SP
41T
E33X
E14X1
LFD-3PB
BS
BUZZER STOP
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
BZ
DC24V SOURCE
STANDBY
AC440V LOW INSULATION
AC220V LOW INSULATION
ACB TRIP
ABNORMAL CIRCUIT
EM'CY STOP CONTROL SOURCE FAILURE
E/G DO LEVEL LOW
EMERGENCY STOP LINE FAULT
EM'CY STOP SOURCE
ACB CLOSED
ACB OPEN
GEN. RUNNING
BUS TIE CLOSED
BUS TIE OPEN
10/2SEC
TB1
A20A
A21
A22
C08
C10
B85
B86
B87
B88
B89
B90
B91
B92
B93
B93A
B94
B94A
B100
B101
B102
B103
B104
B105
B106
B107
E11A
E11A1
E12A
E12A1
E13A
E13A1
E15A
E15A1
E14X1
E16A
E16A1
E17A
E17A1
E17B
E60X
E61X
E62X
E52A-1
E52A
52EX
IRM-1
IRM-2
84MAX
41T
M84X
E33X
E14X1
LFD-3PB
E14X
E14X1
E15A1
E16A1
E17A1
WL
YL
RL
GL
ST
SP
EG13
EG70
EG01
EG11
EG12
EG13
EG70
1F11
2F11
PANEL A
EMERGENCY GENERATOR PANEL
EG13
2-7
TERASAKI


MCCB:206
MC2
TH2
R
S
T
U2
V2
W2
M
FAN FOR EMER. GEN. RM.
AC440V 3φ 60Hz
1.1KW 2.2A
F228
G01
G02
2R1
G03
A1
MC2
A2
CPT3
AC450/220V 30VA
F229
G04
G05
G06
G07
SW1
MANU
2ST
2SP
2R2
G08
G09
G10
G11
2R1
AUTO
E10X
G12
(EG01)
TH2
G13
2R2
WL
POWER
G14
RL
TRIP
G15
GL
RUN
2V
TB1
MC2
G18
17
OL2
G17
18
SPACE HEATER
G16 B3
B4
G07
G04
A3
A4
SHS2
2V
MANU
AUTO
22
21
14
13
EG14
EG14
SW1


EG01
EG01
EG11
EG11
1F11
1F11
1F11
EG14
EG11
EG13
A46
A47
A49
A50
D01
D02
E09X 9 5 (EG11)
B25
B27A
B25
B27
E10
E11
E12
E13
E14
E15
G18
G17
B25
B25A
ESB
TB1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ES1
ES2
ES3
SPACE HEATER
VOLTAGE REGULATION
E/G AUTO. START/STOP
SPACE HEATER
TO FAN FOR EMER. GEN. RM.
OUTSIDE
FROM EG
TO AUTO. START/STOP PANEL
EMERG. G. E. COMMON FAILURE
E/G READY TO START
EMERGENCY STOP (E/R FANS)
EMERGENCY STOP (E/R OIL PUMPS)
EMERGENCY STOP (ACC. FAN)
E/G DO LEVEL LOW
IN OPERATION
FROM AUTO. START /STOP PANEL
FROM EM. STOP JUNCTION BOX
FROM DIESEL OIL TANK
FROM AUTO. START/STOP PANEL


E12X 11 7 (EG13)
E17B 9 5 (EG13)
E12X 11 7 (EG13)
E11X 11 7 (EG13)
E62X 11 7 (EG13)
5ETX 32 31 (1F11)
5ETX-1 32 31 (1F11)
E31X 10 2 (EG11)
E10X 11 7 (EG01)
E43AX 12 8 (EG11)
E31X 9 1 (EG11)
E11X 10 2 (EG13)
E12X 10 2 (EG13)
E34X 10 1 (EG11)
E33X 10 6 (EG13)
E17B 10 6 (EG13)
EG11
D05
D06
D07
D08
D09
D10
D11
D12
D13
D14
D15
D16
D23
D24
D26
D27
D29
D30
B25
B26A
ESB
TB2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
E/G RUNNING
EG STANDBY
EMERG. G. E. COMMON FAILURE
AC440V LOW INSULATION
AC220V LOW INSULATION
ESB COMMOM ALARM
START BATT. LOW VOLTAGE
E/G DO LEVEL LOW
ESB LINE FAULT DETECTOR ALARM
OUTSIDE
TO MSB
START BATT. LOW VOLTAGE
FROM BCP


EG11
ESB
TB3
P
N
1
2
FROM 1CDP
OUTSIDE

R
S
T
AC440V BUS

201 202 203 204 205 SHT 206 SHT

207 SHT 208 209 210 5TM SHT 6TM SHT
*1 *2

214 211 212 SHT 213

EG11
(AC220V)
BV2

F 227

R
S

F01A

TB1
ES1 (EG70)
ES2 (EG70)
ES3 (EG70)
E10 11 E11 12 E12 13 E13 14 E14 15 E15 16
S1 L1 S2 L2 S3 L3
LFD-3PB
R
T
a1 c1 a2 c2 a3 c3 B11 A11 C11
E16 E17 E18
B104 B51
EG13

A1 5ETX-1 A2
A1 E18X A2
A1 E19X A2
A1 E20X A2

F02A

a b EG13 EG13 EG70
a b 1F11
a b 1F11
a b 1F11

*1
R S T
5TM
CT3x2
100/5A
E21
S1 S2 E22
S1 S2 E23
OC1
E24
1F11 97 98 1F11
TA25DU4.0 2.8~4.0
SET 3.2A
5TM U V W
No.5 EMERGENCY TRANSFORMER PRIMARY SIDE
AC450/AC230V 50KVA 3ø 3W 60Hz

*2
R S T
6TM
CT4x2
100/5A
E25
S1 S2 E26
S1 S2 E27
OC2
E28
1F11 97 98 1F11
TA25DU4.0 2.8~4.0
SET 3.2A
6TM U V W
No.6 EMERGENCY TRANSFORMER PRIMARY SIDE
AC450/AC230V 50KVA 3ø 3W 60Hz

EG11
(AC440V)
BV
1

B11
R
OC1 97 98
OC2 97 98
E18X 13 14 (1F11)
E19X 13 14 (1F11)
E20X 13 14 (1F11)
E02 S2 MCCB:5TM SHT S1
E03 S2 MCCB:6TM SHT S1
E05 S2 MCCB:212 SHT S1
E07 S2 MCCB:205 SHT S1
S2 MCCB:207 SHT S1
E09 S2 MCCB:206 SHT S1
A1 5ETX A2
a b EG13 EG13 EG70
S
B12

PANEL B

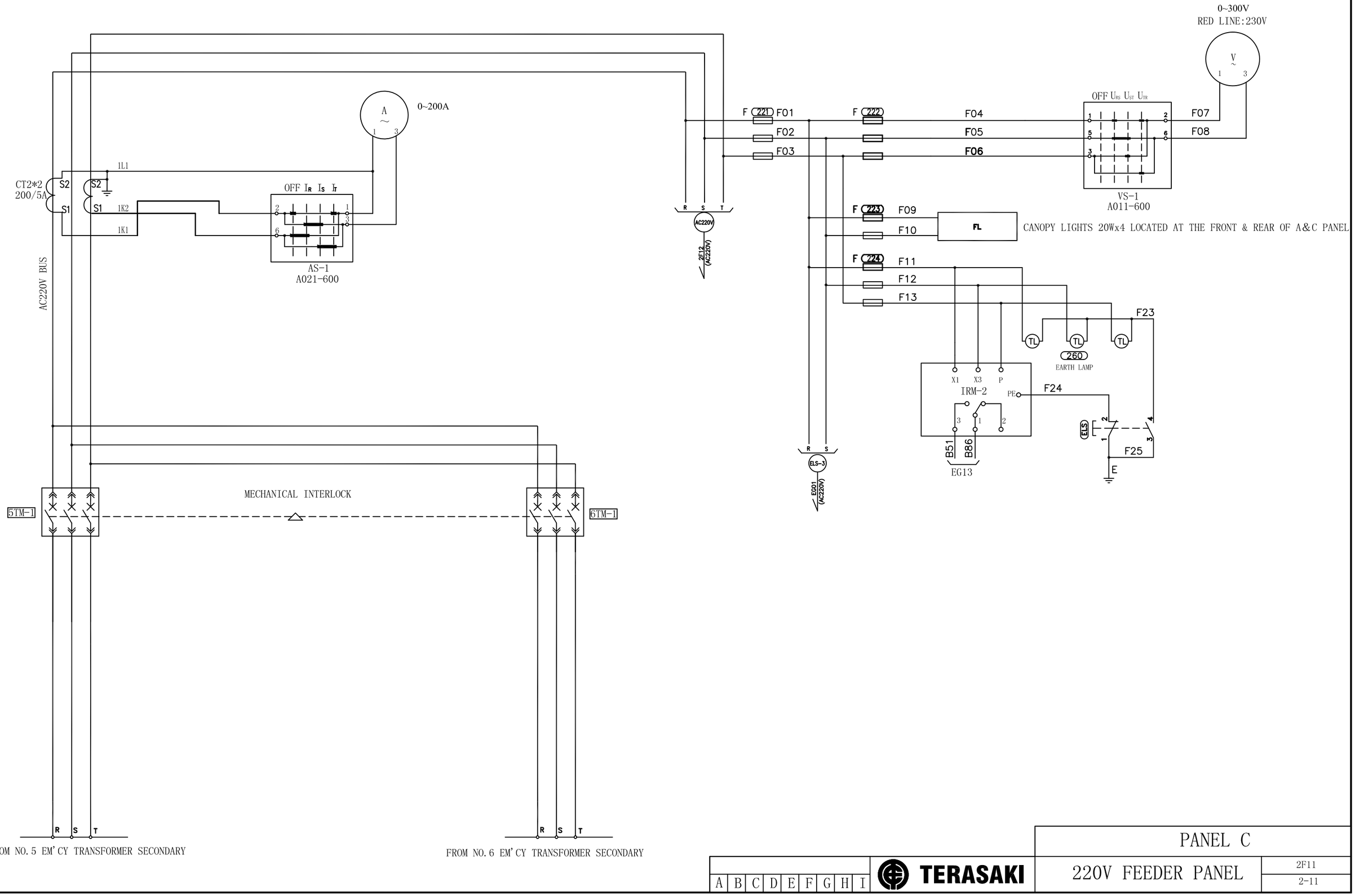
A B C D E F G H I

TERASAKI

AC440V FEEDER PANEL

1F11

2-10



A	B	C	D	E	F	G	H	I

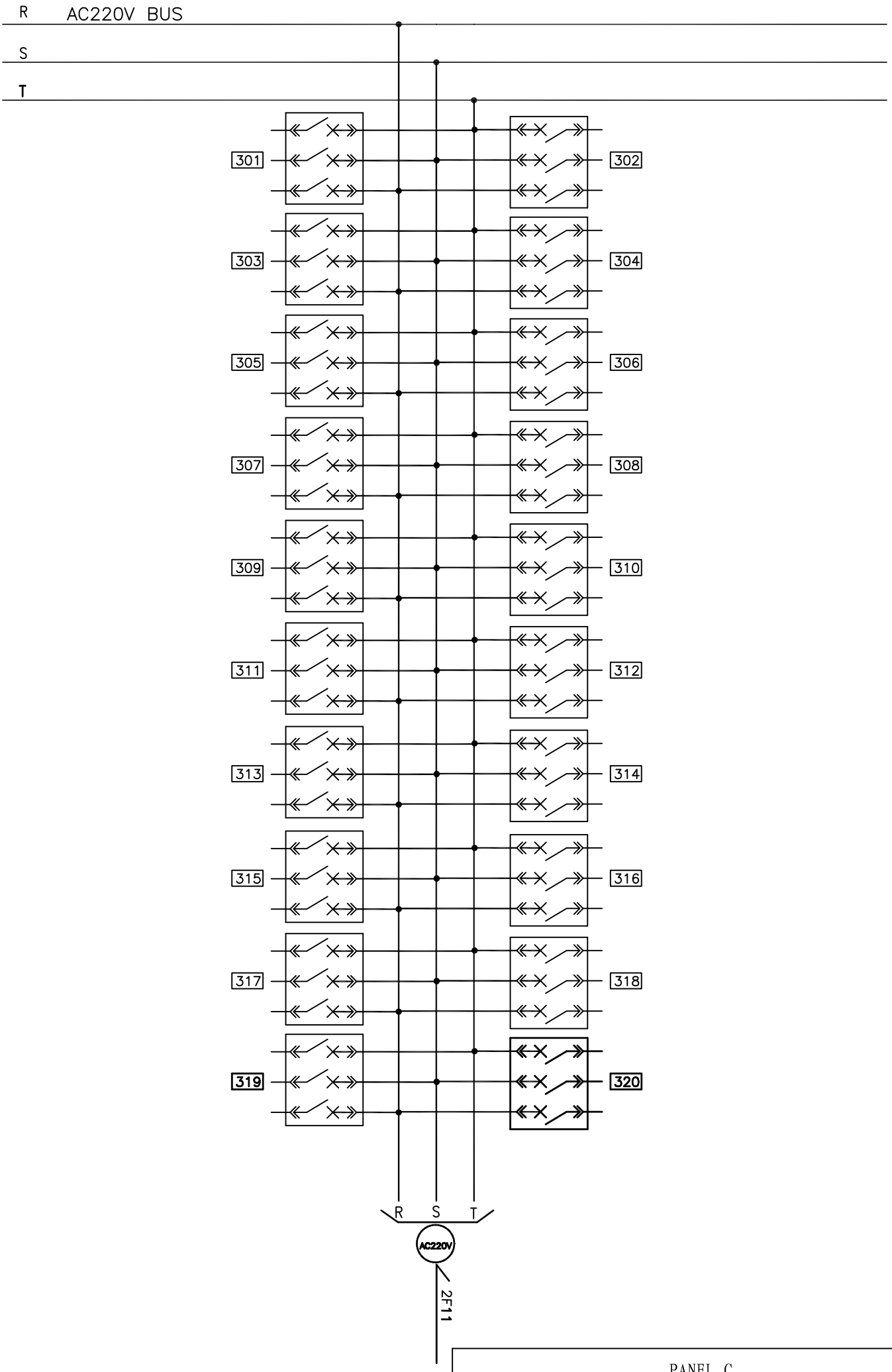
TERASAKI

PANEL C

220V FEEDER PANEL

2F11

2-11



PANEL C

A	B	C	D	E	F	G	H	I

TERASAKI

AC220V FEEDER PANEL

2F12

2-12

VOL.3

TB1 PANEL A

TERMINAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	SPACE HEATER		VOLTAGE REGULATION		AUTO START/STOP		EMERG. G. E. COMMON FAILURE		ENGINE READY		EMERGENCY STOP 1 (E/R FANS)		EMERGENCY STOP 2(E/R OIL PUMPS)		EMERGENCY STOP 3(ACC. FAN)		FAN FOR EMER. GEN. RM. SPACE HEATER		E/G DO LEVEL LOW		ENGINE IN OPERATION	
CABLE	EG2		EG3		EG4						ESJB−2						EGRF−2				EG4	
CABLE ENTRANCE	U		U		U						U						U				U	

TB2

TERMINAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	E/G RUNNING		AUTO STANDBY		EMERG. G. E. COMMON FAILURE		AC440V LOW INSULATION		AC220V LOW INSULATION		ESB COMMON ALARM		START BATT. LOW VOLTAGE		DIESEL OIL LOW PRESSURE		ESB LINE FAULT DETECTOR ALARM		START BATT. LOW VOLTAGE	
CABLE	ESB−2																		BCP−1	
CABLE ENTRANCE	L																		L	

TB2

TERMINAL	21	22	23	24	25	26	27	28	29	30
	SPARE									
CABLE	MSB−2									
CABLE ENTRANCE	L									