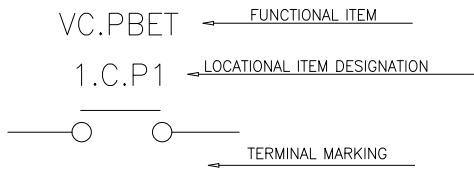


부산도시철도 1호선 전동차 40량 전기회로 도면집

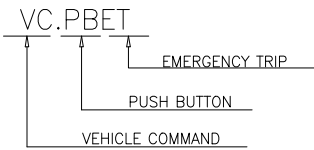
NO.	도면번호	도면명칭	Size	적용차종						비고
				Tc1	M1	M2	T1	T2	Tc2	
1	REC00010FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL LIST	A2	○	○	○	○	○	○	
2	REC00020FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL EQUIPMENT ARR'T	A2	○	○	○	○	○	○	
3	REC00030FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL SYMBOL	A2	○	○	○	○	○	○	
4	REC00040FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL ABBREVIATION(1/2)	A2	○	○	○	○	○	○	
5	REC00041FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL ABBREVIATION(2/2)	A2	○	○	○	○	○	○	
6	REC00050FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL WIRE ID.NUMBER'G	A2	○	○	○	○	○	○	
7	REC00060FG0	SCHEMATIC DIAGRAM OF JUMPER COUPLER ARRANGMENT	A2	○	○	○	○	○	○	
8	REC10100FG0	SCHEMATIC DIAGRAM OF VEHICLE COMMAND	A2	○	—	—	—	—	○	
9	REC10130FG0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU,1/3)	A2	○	—	—	—	—	○	
10	REC10131FG0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU,2/3)	A2	○	—	—	—	—	○	
11	REC10132FG0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU,3/3)	A2	○	—	—	—	—	○	
12	REC10135FG0	SCHEMATIC DIAGRAM OF TCMS SYSTEM CONFIGURATION	A2	○	○	○	○	○	○	
13	REC10140FG0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(TU,1/2)	A2	○	○	○	○	○	○	
14	REC10141FG0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(TU,2/2)	A2	○	○	○	○	○	○	
15	REC20210FG0	SCHEMATIC DIAGRAM OF MAIN POWER CIRCUIT(1/2)	A2	○	○	○	○	—	—	
16	REC20211FG0	SCHEMATIC DIAGRAM OF MAIN POWER CIRCUIT(2/2)	A2	○	○	○	○	○	○	
17	REC20220FG0	SCHEMATIC DIAGRAM OF MAIN POWER CONTROL	A2	○	○	○	○	—	○	
18	REC30300FG0	SCHEMATIC DIAGRAM OF EMERGENCY BRAKE	A2	○	○	○	○	○	○	
19	REC30320FG0	SCHEMATIC DIAGRAM OF SEREVICE BRAKE(TC1/TC2)	A2	○	—	—	—	—	○	
20	REC30321FG0	SCHEMATIC DIAGRAM OF SERVICE BRAKE(M1/M2)	A2	—	○	○	—	—	—	
21	REC30322FG0	SCHEMATIC DIAGRAM OF SERVICE BRAKE(T1/T2)	A2	—	—	—	○	○	—	
22	REC30330FG0	SCHEMATIC DIAGRAM OF MAIN AIR COMPRESSOR CONTROL(TC1/TC2)	A2	○	—	—	—	—	○	
23	REC30350FG0	SCHEMATIC DIAGRAM OF RESCUE OPERATION	A2	○	—	—	—	—	○	
24	REC40400FG0	SCHEMATIC DIAGRAM OF PANTOGRAPH CONTROL	A2	○	○	○	○	○	○	
25	REC40410FG0	SCHEMATIC DIAGRAM OF SIV POWER SUPPLY	A2	○	—	—	—	—	○	
26	REC40420FG0	SCHEMATIC DIAGRAM OF SIV INTERFACE	A2	○	—	—	—	—	○	
27	REC40430FG0	SCHEMATIC DIAGRAM OF AC380V, AUX POWER(TC1/TC)	A2	○	—	—	—	—	○	
28	REC40431FG0	SCHEMATIC DIAGRAM OF AC380V, AUX POWER(M1/M2/T1/T2)	A2	—	○	○	○	○	—	
29	REC40460FG0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(TC1/TC2)	A2	○	—	—	—	—	○	
30	REC40461FG0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(M1)	A2	—	○	—	—	—	—	

31	REC40462FG0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(M2)	A2	—	—	○	—	—	—
32	REC40463FG0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(T1,T2)	A2	—	—	—	○	○	—
33	REC50500FG0	SCHEMATIC DIAGRAM OF INTERIOR LIGHT	A2	○	○	○	○	○	○
34	REC50501FG0	SCHEMATIC DIAGRAM OF LIGHTS & METER	A2	○	—	—	—	—	○
35	REC50520FG0	SCHEMATIC DIAGRAM OF AIR CONDITIONS	A2	○	○	○	○	○	○
36	REC50550FG0	SCHEMATIC DIAGRAM OF HEATERS	A2	○	○	○	○	○	○
37	REC50551FG0	SCHEMATIC DIAGRAM OF LINE FLOW FANS AND VENTILATION FANS	A2	○	○	○	○	○	○
38	REC50560FG0	SCHEMATIC DIAGRAM OF WIPER CONTROL	A2	○	—	—	—	—	○
39	REC60610FG0	SCHEMATIC DIAGRAM OF DOOR CONTROL (TC1/TC2)	A2	○	—	—	—	—	○
40	REC60611FG0	SCHEMATIC DIAGRAM OF DOOR CONTROL (M1/M2/T1/T2)	A2	—	○	○	○	○	—
41	REC70700FG0	SCHEMATIC DIAGRAM OF PUBLIC ADDRESS SYSTEM	A2	○	○	○	○	○	○
42	REC70701FG0	SCHEMATIC DIAGRAM OF PUBLIC ADDRESS ETHERNET SWITCH	A2	○	○	○	○	○	○
43	REC70710FG0	SCHEMATIC DIAGRAM OF PASSNEGER INFORMATION	A2	○	○	○	○	○	○
44	REC70720FG0	SCHEMATIC DIAGRAM OF CCTV SYSTEM	A2	○	○	○	○	○	○
45	REC70730FG0	SCHEMATIC DIAGRAM OF TRAIN RADIO	A2	○	—	—	—	—	○
46	REC80870FG0	SCHEMATIC DIAGRAM OF ATC/ATO/TWC CONTROL(1/2)	A2	○	—	—	—	—	○
47	REC80871FG0	SCHEMATIC DIAGRAM OF ATC/ATO/TWC CONTROL(2/2)	A2	○	—	—	—	—	○
48	REC90900FG0	SCHEMATIC DIAGRAM OF FIRE/SMOKE DETECTION	A2	○	○	○	○	○	○
49	REC90910FG0	SCHEMATIC DIAGRAM OF PSD CONTROLLER	A2	○	—	—	—	—	—
50	REC90920FG0	SCHEMATIC DIAGRAM OF END DOOR CONTROL	A2	○	○	○	○	○	○
51	REC90930FG0	SCHEMATIC DIAGRAM OF INTERIOR LIGHT ILLUMINATION CONTROL	A2	○	○	○	○	○	○

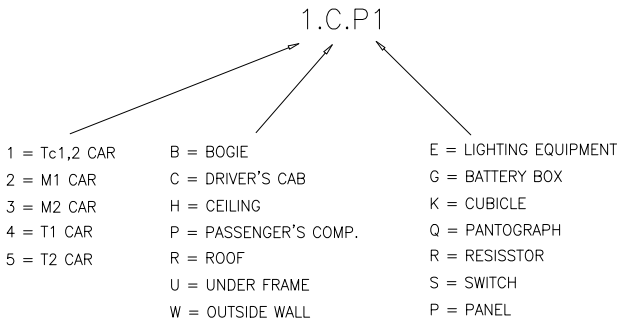
ITEM DESIGNATIONS



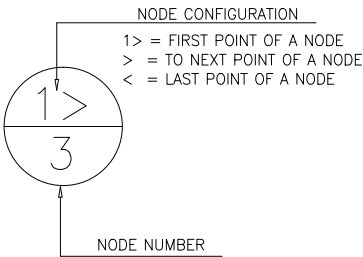
FUNCTIONAL ITEM DESIGNATION



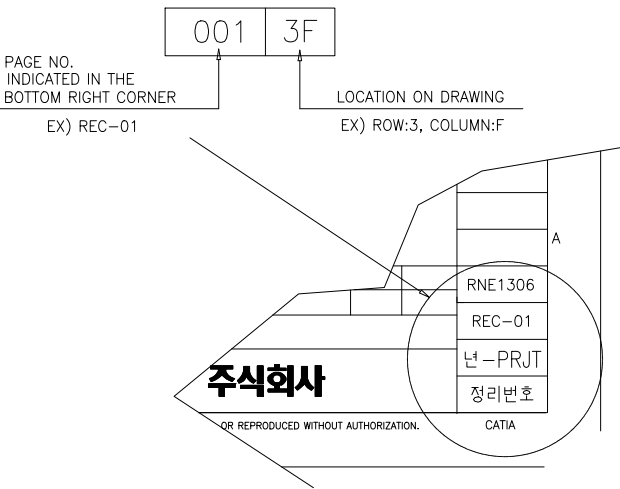
LOCATIONAL ITEM DESIGNATION



NODE SYMBOL ON A DRAWING



NODE SYMBOL WITHIN DRAWINGS



NO.	PART NO.	DESCRIPTION	적 용 차 종					REMARKS
			TC1/TC2	M1	M2	T1	T2	
1	REC00010FG0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL LIST.	0	0	0	0	0	
2	REC00020DX0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL EQUIPMENT ARRANGEMENT.	0	0	0	0	0	
3	REC00030DX0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL SYMBOL.	0	0	0	0	0	
4	REC00040DX0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL ABBREVIATION(1/2)	0	0	0	0	0	
5	REC00041DX0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL ABBREVIATION(2/2)	0	0	0	0	0	
6	REC00050DX0	SCHEMATIC DIAGRAM OF ELECTRIC GENERAL WIRE IDENTIFICATION NUMBERING.	0	0	0	0	0	
7	REC00060DX0	SCHEMATIC DIAGRAM OF JUMPER COUPLER ARRANGEMENT	0	0	0	0	0	
8	REC10100DX0	SCHEMATIC DIAGRAM OF VEHICLE COMMAND	0	—	—	—	—	
9	REC10130DX0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU, 1/3)	0	—	—	—	—	
10	REC10131DX0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU, 2/3)	0	—	—	—	—	
11	REC10132DX0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(CU, 3/3)	0	—	—	—	—	
12	REC10135DX0	SCHEMATIC DIAGRAM OF TCMS SYSTEM CONFIGURATION	0	0	0	0	0	
13	REC10140DX0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(TU, 1/2)	—	0	0	0	0	
14	REC10141DX0	SCHEMATIC DIAGRAM OF TCMS INTERFACE DIAGRAM(TU, 2/2)	—	0	0	0	0	
15	REC20210DX0	SCHEMATIC DIAGRAM OF MAIN POWER CIRCUIT(1/2)	0	0	0	—	—	
16	REC20211DX0	SCHEMATIC DIAGRAM OF MAIN POWER CIRCUIT(2/2)	0	0	0	0	0	
17	REC20220DX0	SCHEMATIC DIAGRAM OF MAIN POWER CONTROL	0	0	0	—	—	
18	REC30300DX0	SCHEMATIC DIAGRAM OF EMERGENCY BRAKE	0	0	0	0	0	
19	REC30320DX0	SCHEMATIC DIAGRAM OF SERVICE BRAKE (TC1/TC2)	0	—	—	—	—	
20	REC30321DX0	SCHEMATIC DIAGRAM OF SERVICE BRAKE(M1/M2)	—	0	0	—	—	
21	REC30322DX0	SCHEMATIC DIAGRAM OF SERVICE BRAKE(T1/T2)	—	—	—	0	0	
22	REC30330DX0	SCHEMATIC DIAGRAM OF MAIN AIR COMPRESSOR CONTROL(TC1/TC2)	0	—	—	—	—	
23	REC30350DX0	SCHEMATIC DIAGRAM OF RESCUE OPERATION	0	—	—	—	—	
24	REC40400DX0	SCHEMATIC DIAGRAM OF PANTOGRAPH CONTROL	0	0	0	0	0	
25	REC40410DX0	SCHEMATIC DIAGRAM OF SIV POWER SUPPLY	0	—	—	—	—	
26	REC40420DX0	SCHEMATIC DIAGRAM OF SIV INTERFACE	0	—	—	—	—	
27	REC40430DX0	SCHEMATIC DIAGRAM OF AC380V, AUX POWER(TC1/TC2)	0	—	—	—	—	
28	REC40431DX0	SCHEMATIC DIAGRAM OF AC380V, AUX POWER(M1/M2/T1/T2)	—	0	0	0	0	
29	REC40460DX0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(TC1/TC2)	0	—	—	—	—	
30	REC40461DX0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(M1)	—	0	—	—	—	
31	REC40462DX0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(M2)	—	—	0	—	—	
32	REC40463DX0	SCHEMATIC DIAGRAM OF DC100V, AUX POWER(T1/T2)	—	—	—	0	0	
33	REC50500DX0	SCHEMATIC DIAGRAM OF INTERIOR LIGHTS	0	0	0	0	0	
34	REC50501DX0	SCHEMATIC DIAGRAM OF LIGHTS & METER	0	—	—	—	—	
35	REC50520DX0	SCHEMATIC DIAGRAM OF AIR CONDITIONS	0	0	0	0	0	
36	REC50550DX0	SCHEMATIC DIAGRAM OF HEATERS	0	0	0	0	0	
37	REC50551DX0	SCHEMATIC DIAGRAM OF LINE FLOW FANS AND VENTILATION FANS	0	0	0	0	0	
38	REC50560DX0	SCHEMATIC DIAGRAM OF WIPER CONTROL	0	—	—	—	—	
39	REC60610DX0	SCHEMATIC DIAGRAM OF DOOR CONTROL (TC1/TC2)	0	—	—	—	—	
40	REC60611DX0	SCHEMATIC DIAGRAM OF DOOR CONTROL (M1/M2/T1/T2)	—	0	0	0	0	
41	REC70700DX0	SCHEMATIC DIAGRAM OF PUBLIC ADDRESS SYSTEM	0	0	0	0	0	
42	REC70701DX0	SCHEMATIC DIAGRAM OF PUBLIC ADDRESS ETHERNET SWITCH	0	0	0	0	0	
43	REC70710DX0	SCHEMATIC DIAGRAM OF PASSENGER INFORMATION	0	0	0	0	0	
44	REC70720DX0	SCHEMATIC DIAGRAM OF CCTV SYSTEM	0	0	0	0	0	
45	REC70730DX0	SCHEMATIC DIAGRAM OF TRAIN RADIO	0	—	—	—	—	
46	REC80870DX0	SCHEMATIC DIAGRAM OF ATC/ATO CONTROL(1/2)	0	—	—	—	—	
47	REC80871DX0	SCHEMATIC DIAGRAM OF ATC/ATO CONTROL(2/2)	0	—	—	—	—	
48	REC90900DX0	SCHEMATIC DIAGRAM OF FIRE & SMOKE DETECTION	0	0	0	0	0	
49	REC90910DX0	SCHEMATIC DIAGRAM OF PSD CONTROLLER	0	—	—	—	—	
50	REC90920DX0	SCHEMATIC DIAGRAM OF END DOOR CONTROL	0	0	0	0	0	
51	REC90930DX0	SCHEMATIC DIAGRAM OF INTERIOR LIGHT ILLUMINATION CONTROL	0	0	0	0	0	

PART NO. CONTENTS

REC00 GENERAL

REC10 TRAIN CONTROL

REC20 TRACTION SYSTEM

REC30 BRAKE SYSTEM

REC40 POWER SUPPLY SYSTEM

REC50 LIGHTING AND HVAC

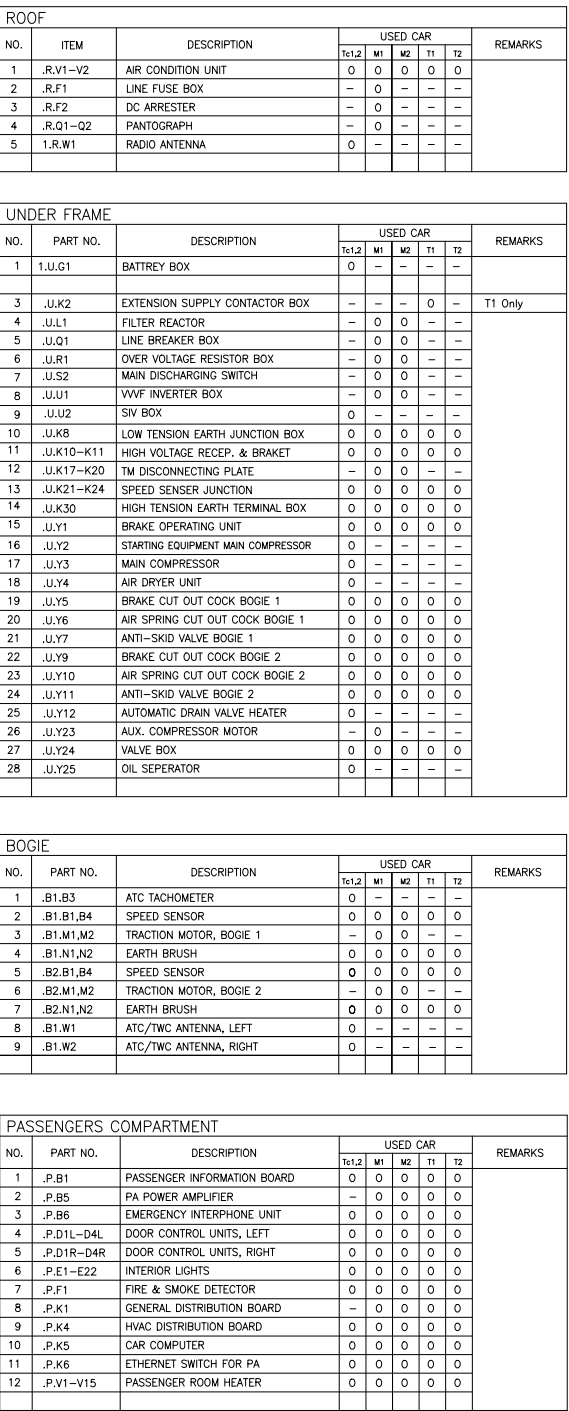
REC60 DOOR & AUXILIARY ELECTRIC EQUIPMENT

REC70 COMMUNICATION SYSTEM

REC80 CONTROL AND COMMAND SYSTEM

REC90 SPECIAL SYSTEM

도 면 명 칭	도 면 번 호	페이지
ELECTRIC GENERAL LIST SCHEMATIC DIAGRAM	1R1-001001-HRC-0001	1
	REC00010	



WALL OUTSIDE			USED CAR				REMARKS	
NO.	PART NO.	DESCRIPTION	1c1,2	M1	M2	T1 T2		
1	.W.B1-B2	OUTSIDE SPEAKERS	0	0	0	0 0		
2	1.W.B5	FRONT DESTINATION INDICATOR	0	-	-	- -		
3	1.W.E1-E2	HEAD LIGHTS	0	-	-	- -		
4	1.W.E3-E4	TAIL LIGHTS	0	-	-	- -		
5	W.E5-E6	SIDE MARK LIGHT	0	0	0	0 0		
CEILING								
NO.	PART NO.	DESCRIPTION	1c1,2	USED CAR				REMARKS
				M1	M2	T1	T2	
1	.H.B1-B6	SPEAKERS	0	0	0	0 0		
2	.H.F1-F2	VATILATION FAN	0	0	0	0 0		
3	.H.V1-V4	LINE FLOW FANS	0	0	0	0 0		
4	.H.V7	ROOM HEATER THERMOSTAT	0	0	0	0 0		
5	.H.V5	CAB LINE FLOW FAN	0	-	-	- -		
DRIVER'S CAB								
NO.	PART NO	DESCRIPTION	1c1,2	USED CAR				REMARKS
				M1	M2	T1	T2	
1	1.C.B1	AUDIO & VIDEO CONTROLLER	0	-	-	-	-	
2	1.C.B6	TRAIN RADIO CONTROL PANEL	0	-	-	-	-	
3	1.C.B7	MONITOR SPEAKER	0	-	-	-	-	
4	1.C.B8	SIDE OPERATION PANEL LEFT	0	-	-	-	-	
5	1.C.B9	SIDE OPERATION PANEL RIGHT	0	-	-	-	-	
6	1.C.B11	WIPER CONTROL BOX	0	-	-	-	-	
7	1.C.E1	CAB CEILING LIGHT DC	0	-	-	-	-	
8	1.C.E2	CAB CEILING LIGHT AC	0	-	-	-	-	
9	1.C.E4	TIME TABLE LIGHT	0	-	-	-	-	
10	1.C.K3	ATC/ATO/TWC UNITS	0	-	-	-	-	
11	1.C.K6	GENERAL DISTRIBUTION BOARD	0	-	-	-	-	
12	1.C.K7	TRAIN COMPUTER	0	-	-	-	-	
13	1.C.P1.1	PA CENTER OPERATION UNIT	0	-	-	-	-	
14	1.C.P1.2	MASTER CONTROLLER	0	-	-	-	-	
15	1.C.P1.3	OPERATING SWITCH PANEL #1	0	-	-	-	-	
16	1.C.P1.4	METER, INDICATOR PANEL	0	-	-	-	-	
17	1.C.P1.5	DESK SWITCH BOARD(NFB PANEL)	0	-	-	-	-	
18	1.C.P1.6	OPERATING SWITCH PANEL #2	0	-	-	-	-	
19	1.C.P1.7	TCMS DISPLAY	0	-	-	-	-	
20	1.C.P1.8	OPERATING SWITCH PANEL #3	0	-	-	-	-	
21	1.C.P1.9	ASPECT DISPLAY UNIT(MMI)	0	-	-	-	-	
22	1.C.P1.10	OPERATING SWITCH PANEL #4	0	-	-	-	-	
23	1.C.P1.11	DIMMER SWITCH	0	-	-	-	-	
24	1.C.P1.12	CCTV MONITOR	0	-	-	-	-	
25	1.C.P3	DOOR OPERATING SWITCH BOX, LEFT	0	-	-	-	-	
26	1.C.P4	DOOR OPERATING SWITCH BOX, RIGHT	0	-	-	-	-	
27	1.C.V1	CAB HEATER	0	-	-	-	-	
28	1.C.V2	DRIVER'S SEAT(FAN) HEATER	0	-	-	-	-	
29	1.C.V25	DEFROSTER	0	-	-	-	-	
30	1.C.Y3,Y4	PARKING BRAKE MAGNET VALVES	0	-	-	-	-	

PASSENGERS COMPARTMENT								
NO.	PART NO.	DESCRIPTION	USED CAR					REMARKS
			1c/2	M1	M2	T1	T2	
1	.P.B1	PASSENGER INFORMATION BOARD	0	0	0	0	0	
2	.P.B5	PA POWER AMPLIFIER	-	0	0	0	0	
3	.P.B6	EMERGENCY INTERPHONE UNIT	0	0	0	0	0	
4	.P.D1L-D4L	DOOR CONTROL UNITS, LEFT	0	0	0	0	0	
5	.P.D1R-D4R	DOOR CONTROL UNITS, RIGHT	0	0	0	0	0	
6	.P.E1-E22	INTERIOR LIGHTS	0	0	0	0	0	
7	.P.F1	FIRE & SMOKE DETECTOR	0	0	0	0	0	
8	.P.K1	GENERAL DISTRIBUTION BOARD	-	0	0	0	0	
9	.P.K4	HVAC DISTRIBUTION BOARD	0	0	0	0	0	
10	.P.K5	CAR COMPUTER	0	0	0	0	0	
11	.P.K6	ETHERNET SWITCH FOR PA	0	0	0	0	0	
12	.P.V1-V15	PASSENGER ROOM HEATER	0	0	0	0	0	

NO	PART NO	DESCRIPTION
1.1		Functional of constructional unit
1.2		Inner boundary, inside a functional or constructional unit
1.3		Earth
1.4		Frame, chassis
1.5		Return current unit
2.1		Conductor
2.2		Two conductors crossing each other without no connection
2.3		Junction
2.4		Conductor not connected
2.5		Flexible conductor
2.6		Conductor with screen
2.7		Twisted conductors
2.8		Conductor in a cable
2.9		Coaxial cable
2.10		Optical fibre
2.11		Reference for conductors within a circuit diagram sheet
2.12		Reference for conductors between circuit diagram sheets
2.13		Reference for conductors between more than one circuit diagram sheet
3.1		Terminal point (Ex. X13:11A)
3.2		Terminal, common
3.3		Outlet with terminal for protection earth
3.4		Jumper (Ex. between cars)
4.1		Resistor, common
4.2		Resistor with fixed tapping
4.3		Resistor with sliding contact potentiometer

NO	PART NO	DESCRIPTION
4.4		Shunt
4.5		Heating element
4.6		Winding coil inductor choke
4.7		Capacitor
5.1		Semiconductor diode
5.2		Light emitting diode
5.3		Unidirectional breakdown diode voltage regular diode
5.4		Bidirectional breakdown diode
5.5		Thyristor
5.6		Turn-off thyristor
5.7		PNP transistor
5.8		NPN transistor
5.9		Optocoupler, transistor type
5.10		Optocoupler, diode type
6.1		Primary cell or accumulator the longer line represent the positive pole
6.2		Battery of accumulators primary cells
7.1		Transformer winding
7.2		Transformer with two windings
7.3		Trigger pulse transformer (primary side)
7.4		Trigger pulse transformer (secondary side)
7.5		Current transformer
8.1		Three-phase, squirrel cage induction motor
8.2		Three-phase, squirrel cage induction motor two speed motor
8.3		Separatly excited motor
8.4		One-phase series motor

NO	PART NO	DESCRIPTION
9.1		Fuse
9.2		Lighting arrester
10.1		Thermal actuator
11.1		Change-over contact
11.2		Make contact
11.3		Motor circuit breaker with over-current and overload trip
11.4		Circuit breaker
12.1		Pressure switch
12.2		Temperature switch(a contact)
12.3		Temperature switch(b contact)
12.4		Flow switch
13.1		Lamp, signal lamp
13.2		Horn
13.3		Buzzer
14.1		Digital input
14.2		Digital output
14.3		Analogue input
14.4		Analogue output
14.5		Signal converter
14.6		Transformer unit block symbol
14.7		Signal converter pulse to DC voltage
14.8		Signal converter DC voltage to pulse
15.1		Antenna, general symbol
15.2		Speaker
15.3		Microphone

NO	PART NO	DESCRIPTION
15.4		Flourescent lamp(DC)
15.5		Flourescent lamp(AC)
15.6		Heater
16.1		Mechanical a contact
16.2		Mechanical b contact
17.1		Relay a contact
17.2		Relay b contact
17.3		Main contact
17.4		Reactor
17.5		Relay or contact
17.6		Cam switch contact
17.7		Current transformer
18.1		Digital to analogue converter
18.2		Analogue to digital converter
18.3		Push button(spring return)
18.4		Push button(manual return)
18.5		RS-485 transmission
18.6		Varister
18.7		Potential breaker
18.8		High speed breaker
18.9		Line breaker

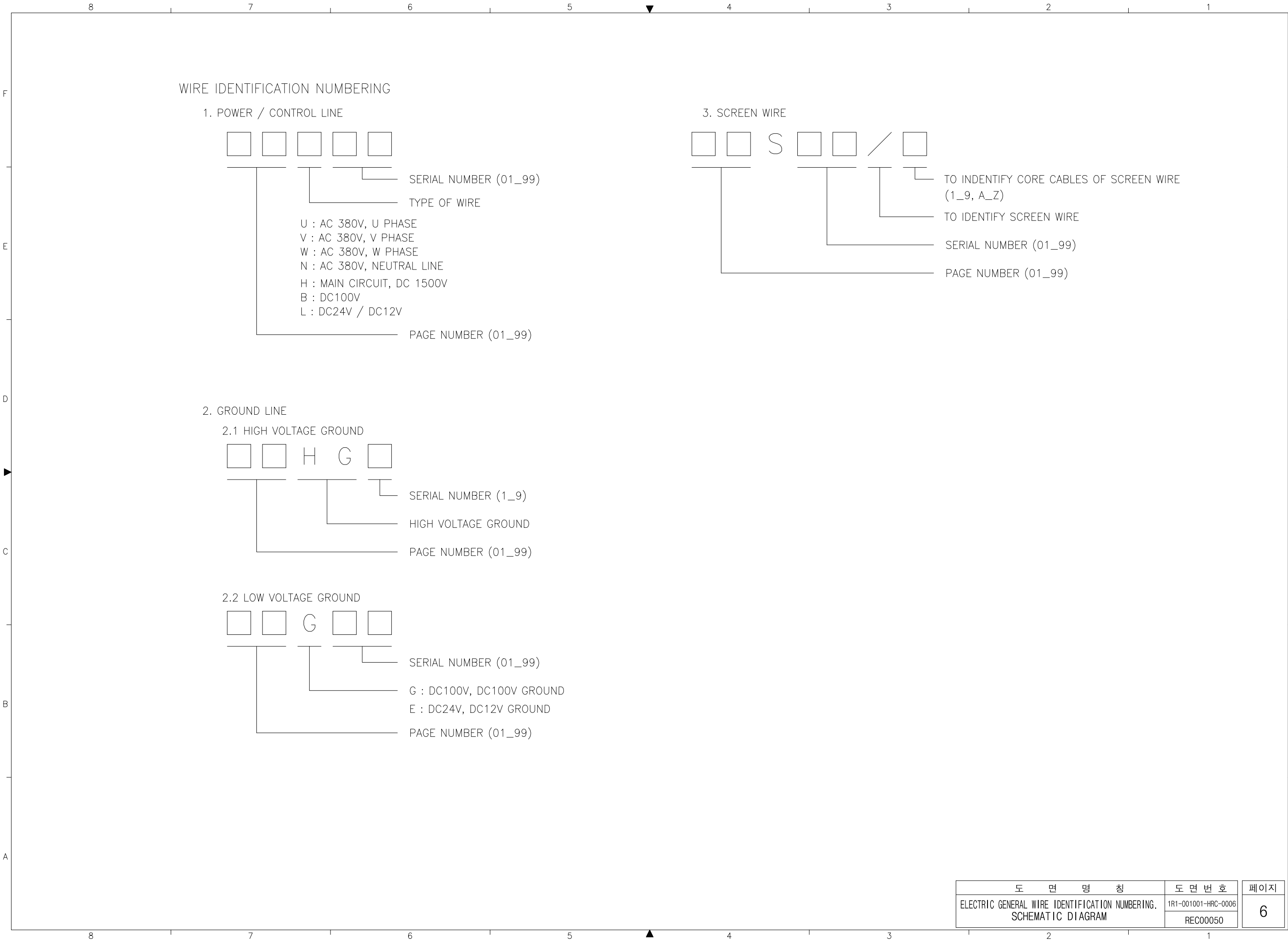
FUNCTIONAL ITEM DESIGNATION	DESCRIPTION	SHEET
VEHICLE COMMAND		
VC.AHMV	AIR. HORN MAGNET VALVE	034
VC.AMLINE	LINE CURRENT METER	034
VC.ATOSPB1	DEPARTURE PUSH BUTTON#1	008
VC.ATOSPB2	DEPARTURE PUSH BUTTON#2	008
VC.CNTMA	MASTER CONTROLLER	008
VC.CRHLH	HEAD LIGHT BEAM HIGH CONTACTOR RELAY	034
VC.CRHLL	HEAD LIGHT BEAM LOW CONTACTOR RELAY	034
VC.GADPR	DUPLEX PRESSURE GAUGE	034
VC.ILBA	BRAKE APPLIED INDICATION LAMP	018
VC.ILDC	ALL DOOR CLOSED INDICATION LAMP	039
VC.ILDO	ALL DOOR OPEN INDICATION LAMP	039
VC.ILEBA	EMERGENCY BRAKE APPLIED INDICATION LAMP	018
VC.ILEBCO	EMERGENCY BRAKE CUTOUT INDICATION LAMP	018
VC.ILPBA	PARKING BRAKE APPLIED INDICATING LAMP	018
VC.ILPAND	PANTO. DOWN INDICATING LAMP	024
VC.ILOCA	OTHER CAB OCCUPIED INDICATION LAMP	008
VC.PBACOO	AUXILIARY COMPRESSOR ON PUSH BUTTON	020
VC.PBAIRH	AIR. HORN ON PUSH BUTTON	034
VC.PBCMPR	COMPULSORY RELEASE PUSH BUTTON	019
VC.PBDCAC	DOOR CLOSE ATO CUTOUT PUSH BUTTON	039
VC.PBDCL	DOOR CLOSE LEFT PUSH BUTTON	039
VC.PBDCLR	DOOR CLOSE RIGHT PUSH BUTTON	039
VC.PBDCL(SIDE)	DOOR CLOSE LEFT PUSH BUTTON(SIDE)	039
VC.PBDCR(SIDE)	DOOR CLOSE RIGHT PUSH BUTTON(SIDE)	039
VC.PBDOL	DOOR OPEN LEFT PUSH BUTTON	039
VC.PBDOR	DOOR OPEN RIGHT PUSH BUTTON	039
VC.PBDOL(SIDE)	DOOR OPEN LEFT PUSH BUTTON(SIDE)	039
VC.PBDOR(SIDE)	DOOR OPEN RIGHT PUSH BUTTON(SIDE)	039
VC.PBDROL	DOOR REOPEN LEFT PUSH BUTTON	039
VC.PBDROR	DOOR REOPEN RIGHT PUSH BUTTON	039
VC.PBDROL(SIDE)	DOOR REOPEN LEFT PUSH BUTTON(SIDE)	039
VC.PBDROR(SIDE)	DOOR REOPEN RIGHT PUSH BUTTON(SIDE)	039
VC.PBEB	EMERGENCY BRAKE PUSH BUTTON	018
VC.PBEDO	END DOOR OPEN PUSH BUTTON	050
VC.PBET	EMERGENCY PANTO DOWN PUSH BUTTON	024
VC.PBPAND	PANTOGRAPH DOWN PUSH BUTTON	024
VC.PBPANU	PANTOGRAPH UP PUSH BUTTON	024
VC.PBPABRA	PARKING BRAKE APPLY PUSH BUTTON	018
VC.PBPABRR	PARKING BRAKE RELEASE PUSH BUTTON	018
VC.PBPDSE	PSD EMERGENCY PUSH BUTTON	049
VC.RLDB	MANUAL DRIVING BRAKE RELAY	008
VC.RL1HC	HEAD CONTROL RELAY 1	008
VC.RL2HC	HEAD CONTROL RELAY 2	008
VC.RL3HC	HEAD CONTROL RELAY 3	008
VC.RLSFD	SIV FAULT DETECTOR RELAY	027
VC.RL1TC	TAIL CONTROL RELAY 1	008
VC.RL2TC	TAIL CONTROL RELAY 2	008
VC.RLFMM	FULL MANUAL CONTROL(FMC) RELAY	008
VC.RLTMC	TWO MAN DOOR CONTROL RELAY	039
VC.RLTZV	ZERO SPEED FOR ATC RELAY	046
VC.RLVFM	VEHICLE FULL MANUAL CONTROL RELAY	008
VC.RLVZV	ZERO SPEED FOR VVVF RELAY	024
VC.RLZV	ZERO SPEED RELAY	008
VC.SWADBP	ALL DOOR BY_PASS SWITCH	039
VC.SWDMODE	DRIVING MODE SWITCH	008
VC.SWDNOB	DOOR NOT OBSTACLE BY_PASS SWITCH	039
VC.SWEBCO	EMERGENCY BRAKE CUTOUT SWITCH	018
VC.SWERO	EMERGENCY/RESCUE OPERATION SWITCH	023
VC.SWHL	HEAD LIGHT SWITCH	034

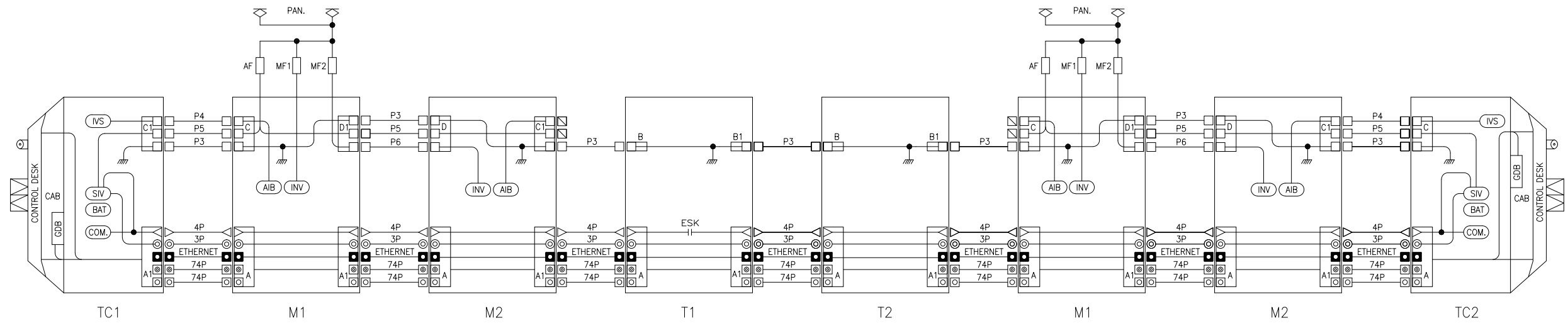
[illegible][illegible]

FUNCTIONAL ITEM DESIGNATION	DESCRIPTION	SHEET
HIGH VOLTAGE		
HV.ARR	DC ARRESTER	015
HV.IVS	INVERTER SWITCH	025,026
HV.MF	LINE FUSE BOX	015
HV.MF1	MAIN FUSE 1	015
HV.MF2	MAIN FUSE 2	015
HV.AF	AUX.FUSE	015
HV.DBRe	DYNAMIC BRAKE RESISTOR	015
HV.EB	EARTH BRUSH	015
HV.FL	FILTER REACTOR	015
HV.LB	LINE BREAKER BOX	015
HV.MDS	MAIN DISCONNECTING SWITCH BOX	015,024
HV.MVPAN1	PANTOGRAPH 1 MAGNET VALVE	024
HV.MVPAN2	PANTOGRAPH 2 MAGNET VALVE	024
HV.PAN1	PANTOGRAPH 1	015
HV.PAN2	PANTOGRAPH 2	015
HV.PSPAN1	PANTOGRAPH 1 PRESSURE SWITCH	024
HV.PSPAN2	PANTOGRAPH 2 PRESSURE SWITCH	024
HV.RLP1PS	PANTOGRAPH 1 PRESSURE SWITCH RELAY	024
HV.RLP2PS	PANTOGRAPH 2 PRESSURE SWITCH RELAY	024
HV.RLPAN	PANTOGRAPH RELAY	024
HV.RLPANUP	PANTOGRAPH UP RELAY	024
HV.RLPANDN	PANTOGRAPH DOWN RELAY	024
HV.SIV	SIV BOX	025
HV.TM1	TRACTION MOTOR 1	015
HV.TM2	TRACTION MOTOR 2	015
HV.TM3	TRACTION MOTOR 3	015
HV.TM4	TRACTION MOTOR 4	015
HV.VINV	VVVF INVERTER UNIT	015,017
AUXILIARY POWER(AC)		
AP.CBACCON	AIR CONDITION UNIT CONTROL CIRCUIT BREAKER	035
AP.CBACU1	AIR CONDITION UNIT 1 CIRCUIT BREAKER	035
AP.CBACU2	AIR CONDITION UNIT 2 CIRCUIT BREAKER	035
AP.CBMC	MAIN COMPRESSOR CIRCUIT BREAKER	027
AP.CBCABHTL	CAB HEATER CIRCUIT BREAKER	027
AP.CBDSHTR	DRIVER'S SEAT HEATER CIRCUIT BREAKER	027
AP.CBCLL	CAB CEILING LIGHT CIRCUIT BREAKER	027
AP.CBDEFR	DEFROSTER CIRCUIT BREAKER	027
AP.CREXT	EXTENTION SUPPLY CONTACTOR	028
AP.CB1IL	INTERIOR LIGHTS CIRCUIT BREAKER 1	027,028
AP.CB2IL	INTERIOR LIGHTS CIRCUIT BREAKER 2	027,028
AP.CBLFF1	LINE FLOW FANS CIRCUIT BREAKER 1	027,028
AP.CBLFF2	LINE FLOW FANS CIRCUIT BREAKER 2	027,028
AP.CBLFFC	LINE FLOW FAN CAB CIRCUIT BREAKER	027
AP.CB1RHT	ROOM HEATERS CIRCUIT BREAKER 1	035
AP.CB2RHT	ROOM HEATERS CIRCUIT BREAKER 2	035
AP.CB3RHT	ROOM HEATERS CIRCUIT BREAKER 3	035
AP.CBVF	VENTILATION FANS CIRCUIT BREAKER	035
AP.CBWIFI	WIFI POWER CIRCUIT BREAKER	027,028
AP.CBSO	220V AC CONSENT CIRCUIT BREAKER	027,028

FUNCTIONAL ITEM DESIGNATION	DESCRIPTION	SHEET
BRAKE AND COMPRESSED AIR		
BC.ADMV	AUTO DRAIN MAGNET VALVE	022
BC.BOU	BRAKE OPERATING UNIT	019-021
BC.CPECU	BRAKE ELECTRONIC UNIT	019-021
BC.CRACMC	AUXILIARY COMPRESSOR MOTOR CONTACTOR	020
BC.MOACO	AUXILIARY COMPRESSOR MOTOR	020
BC.TADRU	AUTO DRAIN VALVE	022
BC.MVPABRA	PARKING BRAKE APPLY MAGNET VALVE	018
BC.MVPABRR	PARKING BRAKE RELEASE MAGNET VALVE	018
BC.MV1AS	ANTI-SKID VALVE BOGIE 1	019-021
BC.MV2AS	ANTI-SKID VALVE BOGIE 2	019-021
BC.MCU	MAIN COMPRESSOR UNIT	022
BC.PSPB	PARKING BRAKE PRESSURE SWITCH	018
BC.PSACMG	AUXILIARY COMPRESSOR MOTOR GOVERNOR PRESSURE SWITCH	020
BC.CMG	COMPRESSOR MOTOR GOVERNOR PRESSURE SWITCH	022
BC.RLPBR	PARKING BRAKE RELEASED RELAY	018
BC.RLEBRR	EMERGENCY BRAKE RELEASED RELAY	018
BC.RLEB	EMERGENCY BRAKE RELAY	018
BC.RL1ERO	EMERGENCY/RESCUE OPERATION RELAY 1	023
BC.RL2ERO	EMERGENCY/RESCUE OPERATION RELAY 2	018
BC.RL3ERO	EMERGENCY/RESCUE OPERATION RELAY 3	018
BC.CMSB	COMPRESSOR MOTOR STARTING BOX	022
BC.ST1	SPEED SENSOR 1	019-021
BC.ST2	SPEED SENSOR 2	019-021
BC.ST3	SPEED SENSOR 3	019-021
BC.ST4	SPEED SENSOR 4	019-021
BC.SWSBRCO	NO SERVICE BRAKE CUT OUT COCK	019-021
BC.SWSBCO	NO SECURITY CUT OUT COCK	019-021
BC.SWBRCO	BRAKE CUT OUT COCK ROOM	019-021
BC.SWBR1CO	BRAKE CUT OUT COCK BOGIE 1	019-021
BC.SWBR2CO	BRAKE CUT OUT COCK BOGIE 2	019-021
BC.SWAS1CO	AIR SPRING CUT OUT COCK BOGIE 1	019-021
BC.SWAS2CO	AIR SPRING CUT OUT COCK BOGIE 2	019-021
BC.TADRU	TWIN TOWER AIR DRYER UNIT	022
CARBODY EQUIPMENT		
CE.ACU1	AIR CONDITION UNIT 1	035
CE.ACU2	AIR CONDITION UNIT 2	035
CE.PIB	PASSENGER INFORMATION BOARD	043
CE.CR1IL	INTERIOR LIGHTS CONTACTOR 1	033
CE.CR2IL	INTERIOR LIGHTS CONTACTOR 2	033
CE.CR3IL	INTERIOR DC LIGHTS CONTACTOR	033
CE.CRLF1	LINE FLOW FANS CONTACTOR 1	037
CE.CRLF2	LINE FLOW FANS CONTACTOR 2	037
CE.CR1RHT	ROOM HEATERS CONTACTOR 1	035
CE.CR2RHT	ROOM HEATERS CONTACTOR 2	035
CE.DEFR	DEFROSTER	037
CE.CCAL	CAB CEILING AC LIGHT	033
CE.FTCLR	CAB CEILING DC LIGHT	033
CE.FT1ILL	INTERIOR LIGHT 1 LEFT	033
CE.FT2ILL	INTERIOR LIGHT 2 LEFT	033
CE.FT3ILL	INTERIOR LIGHT 3 LEFT	033
CE.FT4ILL	INTERIOR LIGHT 4 LEFT	033
CE.FT5ILL	INTERIOR LIGHT 5 LEFT	033
CE.FT6ILL	INTERIOR LIGHT 6 LEFT	033
CE.FT7ILL	INTERIOR LIGHT 7 LEFT	033
CE.FT8ILL	INTERIOR LIGHT 8 LEFT	033

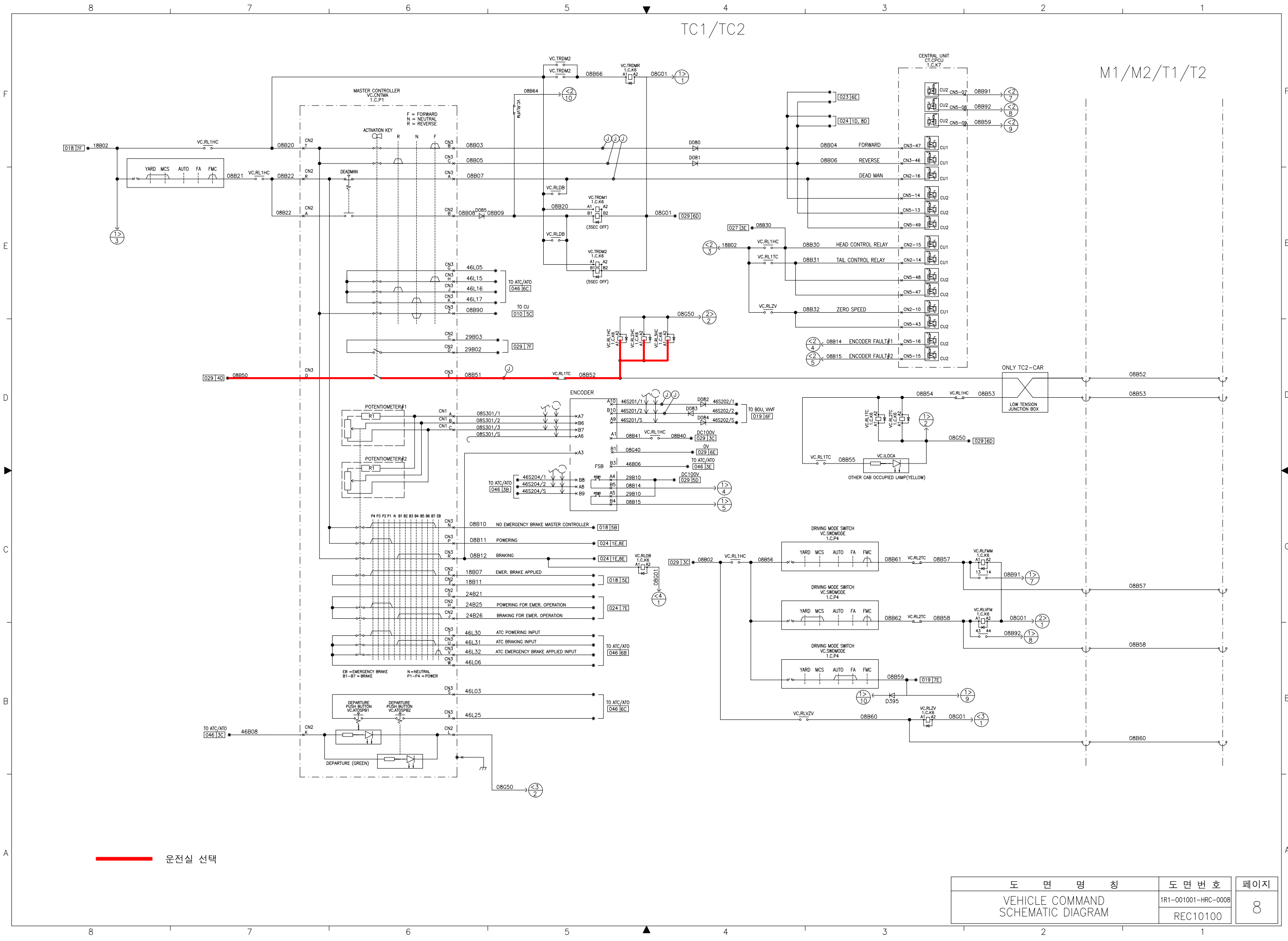
FUNCTIONAL ITEM DESIGNATION	DESCRIPTION	SHEET
CE.FT9ILL	INTERIOR LIGHT 9 LEFT	033
CE.FT10ILL	INTERIOR LIGHT 10 LEFT	033
CE.FT11ILL	INTERIOR LIGHT 11 LEFT	033
CE.FT11ILR	INTERIOR LIGHT 1 RIGHT	033
CE.FT2ILR	INTERIOR LIGHT 2 RIGHT	033
CE.FT3ILR	INTERIOR LIGHT 3 RIGHT	033
CE.FT4ILR	INTERIOR LIGHT 4 RIGHT	033
CE.FT5ILR	INTERIOR LIGHT 5 RIGHT	033
CE.FT6ILR	INTERIOR LIGHT 6 RIGHT	033
CE.FT7ILR	INTERIOR LIGHT 7 RIGHT	033
CE.FT8ILR	INTERIOR LIGHT 8 RIGHT	033
CE.FT9ILR	INTERIOR LIGHT 9 RIGHT	033
CE.FT10ILR	INTERIOR LIGHT 10 RIGHT	033
CE.FT11ILR	INTERIOR LIGHT 11 RIGHT	033
CE.HTCL	CAB HEATER	036
CE.HTCR	DRIVER'S SEAT(FAN) HEATER	036
CE.HTR1L	ROOM HEATER 1 LEFT	036
CE.HTR2L	ROOM HEATER 2 LEFT	036
CE.HTR3L	ROOM HEATER 3 LEFT	036
CE.HTR4L	ROOM HEATER 4 LEFT	036
CE.HTR5L	ROOM HEATER 5 LEFT	036
CE.HTR6L	ROOM HEATER 6 LEFT	036
CE.HTR1R	ROOM HEATER 1 RIGHT	036
CE.HTR2R	ROOM HEATER 2 RIGHT	036
CE.HTR3R	ROOM HEATER 3 RIGHT	036
CE.HTR4R	ROOM HEATER 4 RIGHT	036
CE.HTR5R	ROOM HEATER 5 RIGHT	036
CE.HTR6R	ROOM HEATER 6 RIGHT	036
CE.LPDOL	DOOR OPEN INDICATING LAMP LEFT	039,040
CE.LPDOR	DOOR OPEN INDICATING LAMP RIGHT	039,040
CE.LPHLL	HEAD LIGHT LEFT	034
CE.LPHLR	HEAD LIGHT RIGHT	034
CE.LPTLL	TAIL LIGHT LEFT	034
CE.LPTLR	TAIL LIGHT RIGHT	034
CE.LPTT	TIME TABLE LIGHT	033
CE.PSDC	PLATFORM SCREEN DOOR CONTROLLER	049
CE.RLDCT	DOORS CLOSED IN TRAIN RELAY	039
CE.RLDIL	DOORS INTERLOCK RELAY LEFT	039,040
CE.RLDIR	DOORS INTERLOCK RELAY RIGHT	039,040
CE.SPMTR	MONITOR SPEAKER	041
CE.SPOUTL	OUTSIDE SPEAKER LEFT	041
CE.SPOUTR	OUTSIDE SPEAKER RIGHT	041
CE.SP1RM	ROOM SPEAKER 1	041
CE.SP2RM	ROOM SPEAKER 2	041
CE.SP3RM	ROOM SPEAKER 3	041
CE.SP4RM	ROOM SPEAKER 4	041
CE.SP5RM	ROOM SPEAKER 5	041
CE.SP6RM	ROOM SPEAKER 6	041
CE.MOLFFC	LINE FLOW FAN CAB MOTOR	037
CE.MOLFF1	LINE FLOW FAN 1 MOTOR	037
CE.MOLFF2	LINE FLOW FAN 2 MOTOR	037
CE.MOLFF3	LINE FLOW FAN 3 MOTOR	037
CE.MOLFF4	LINE FLOW FAN 4 MOTOR	037
CE.MOVENT1	VENTILATION FAN 1 MOTOR	037
CE.MOVENT2	VENTILATION FAN 2 MOTOR	037
CE.PWAU1	POWER AMPLIFIER UNIT 1	041,044
CE.PWAU2	POWER AMPLIFIER UNIT 2	041,044
CE.TRCP	TRAIN RADIO CONTROL PANEL	045
CE.EMIP1	PASSENGER EMERGENCY INTERPHONE 1	041
CE.EMIP2	PASSENGER EMERGENCY INTERPHONE 2	041





SYMBOL LIST

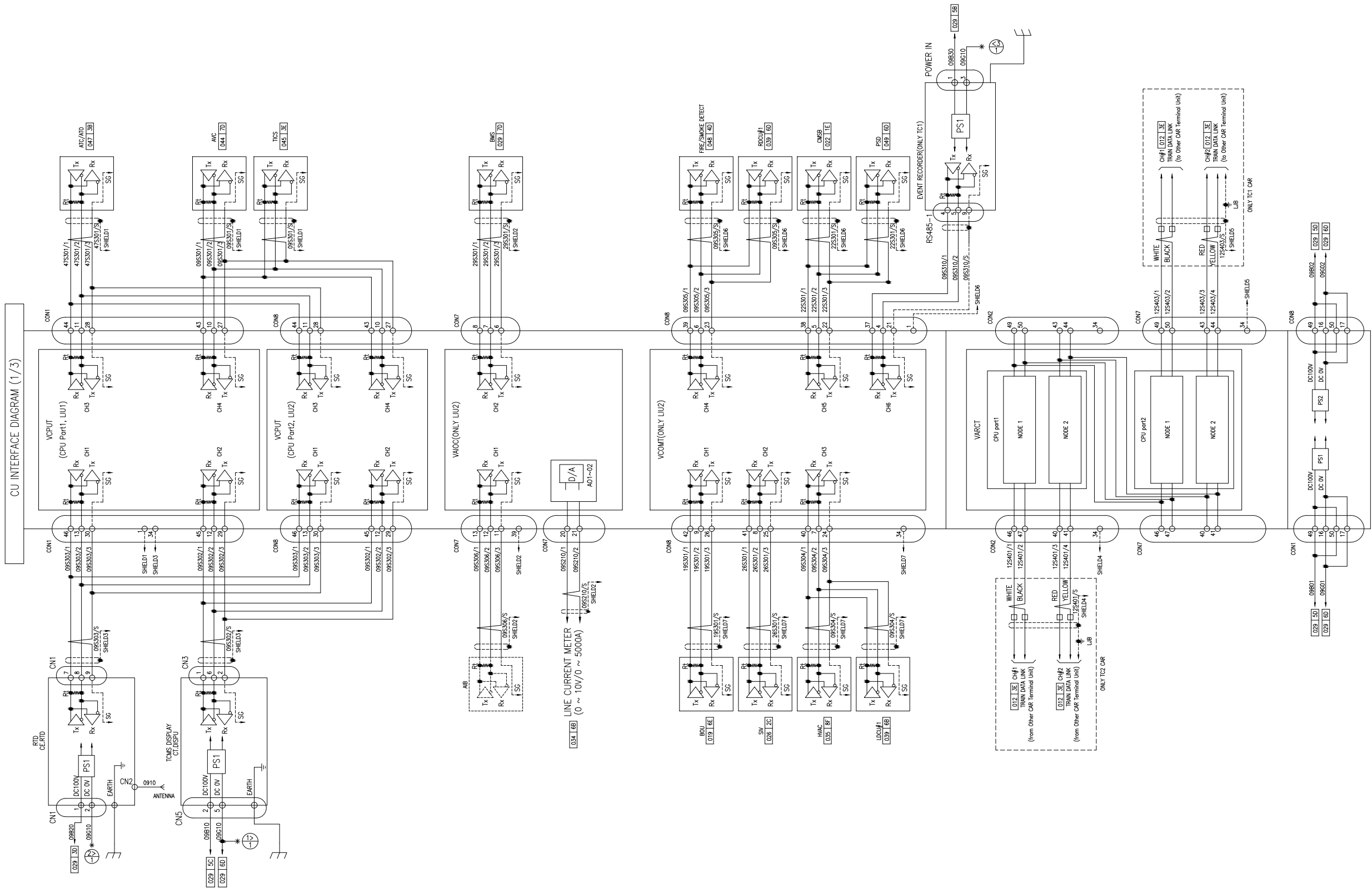
	LOW TENSION JUNCTION BOX
	CONTROL JUMPER COUPLER 1(74P)
	CONTROL JUMPER COUPLER 2(74P)
	ETHERNET CABLE JUMPER PLUG
	AC380V JUMPER COUPLER (4P)
	DC POWER JUMPER COUPLER 1(3P)
	HIGH TENSION JUMPER RECEPTACLE (1P)
	HIGH TENSION JUMPER RECEPTACLE
	HIGH TENSION JUMPER PROTECTION CAP
	LOW TENSION JUMPER RECEPTACLE
	HIGH TENSION JUMPER RECEPTACLE (1P)
	HIGH TENSION JUMPER RECEPTACLE (3P(TEST))
	HIGH TENSION JUMPER RECEPTACLE (3P)
	P3 HIGH TENSION JUMPER PLUG : (185SQ)
	GROUND LINE
	P4 HIGH TENSION JUMPER PLUG : (4SQ)
	IVS TEST LINE
	P5 HIGH TENSION JUMPER PLUG : (70SQ)
	SIV INPUT LINE
	P6 HIGH TENSION JUMPER PLUG : (185SQ)
	INVERTER INPUT LINE
	RESCUE AUTO COUPLER (50P)
	RESCUE COUPLER (12P)

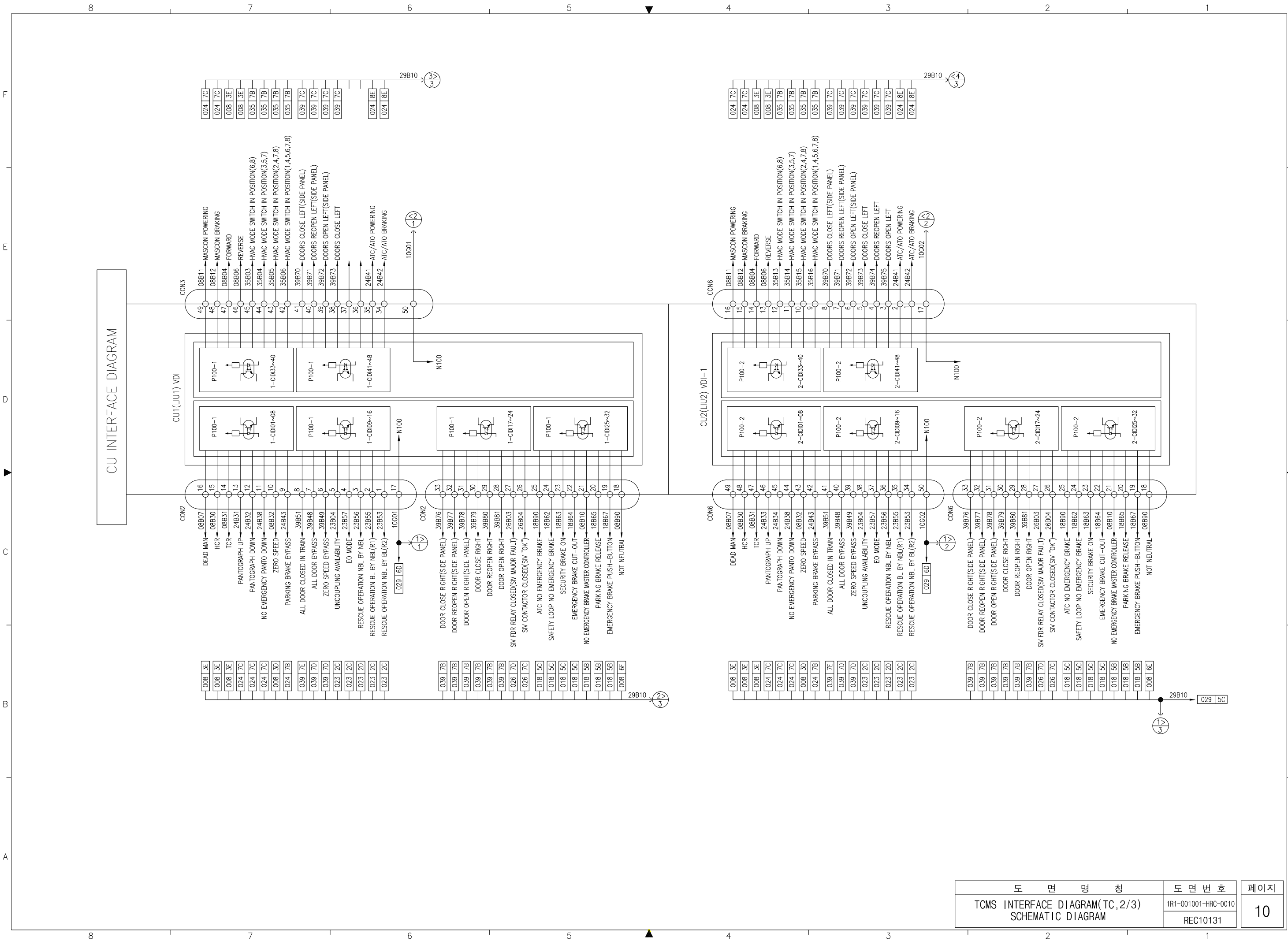


NOTE

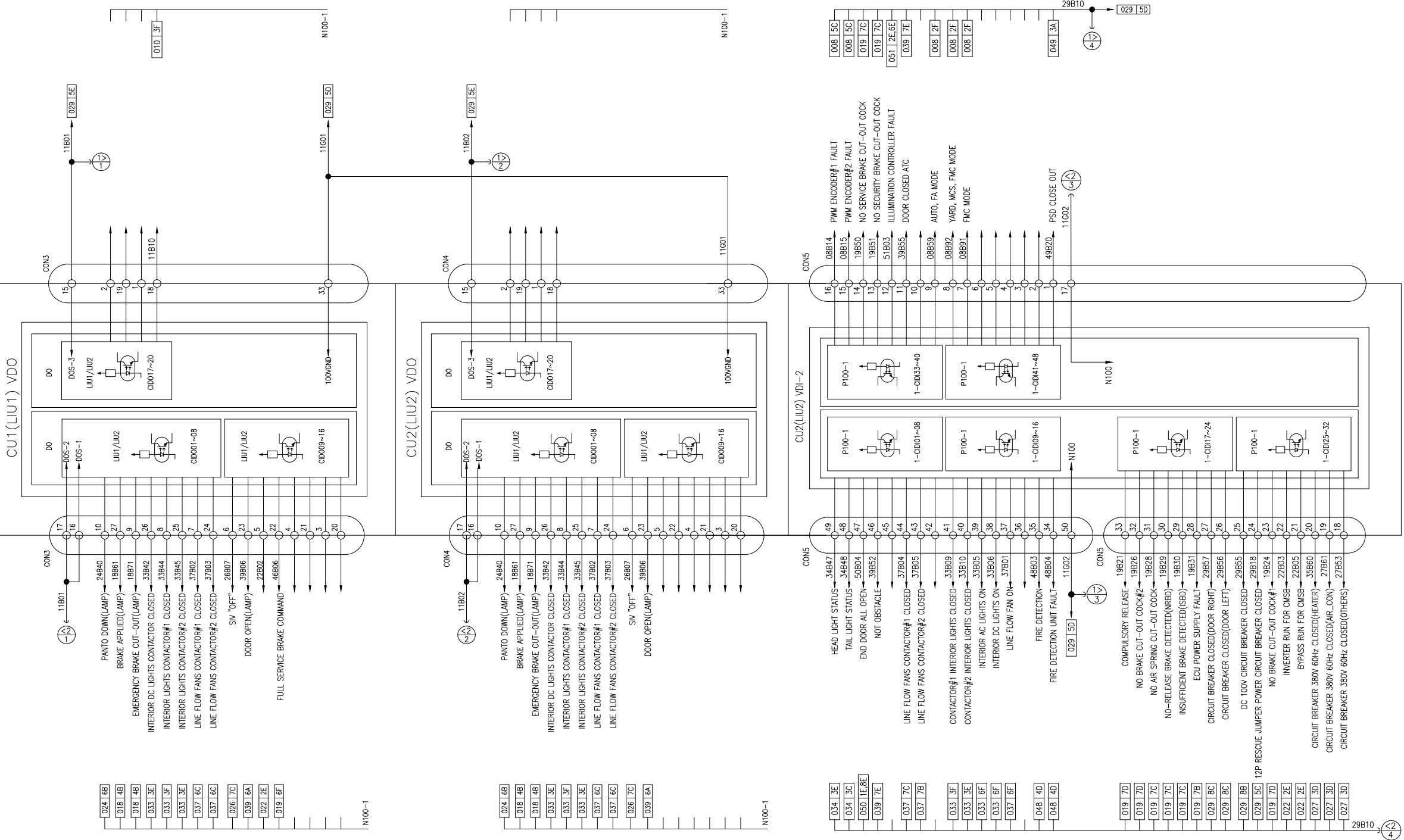
- 1) Rt :120 ohm
AIB : 자동검사장치
- 2) RS-485 통신은 Shield 차체에 접지처리

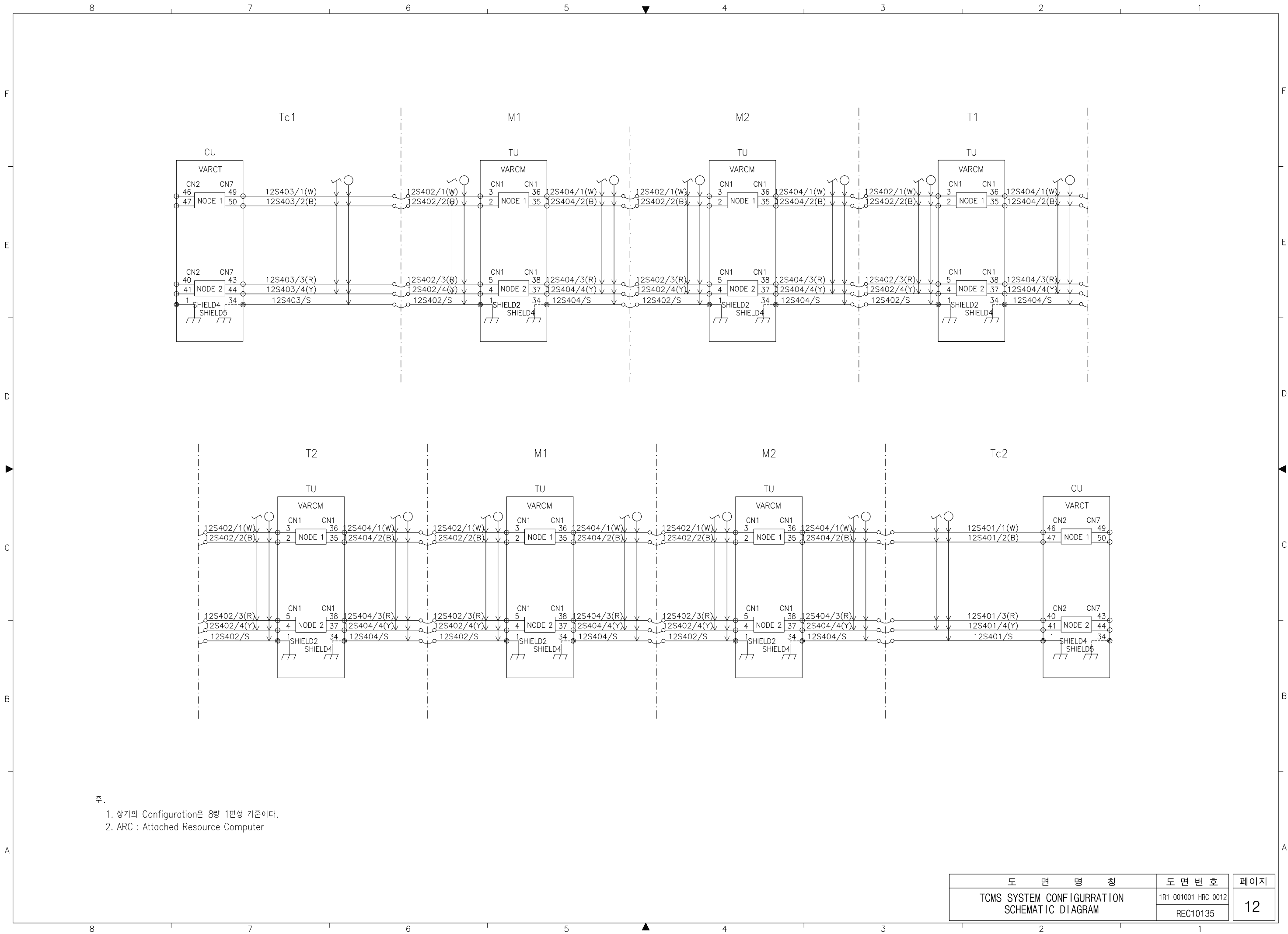
CU INTERFACE DIAGRAM (1/3)





CU INTERFACE DIAGRAM

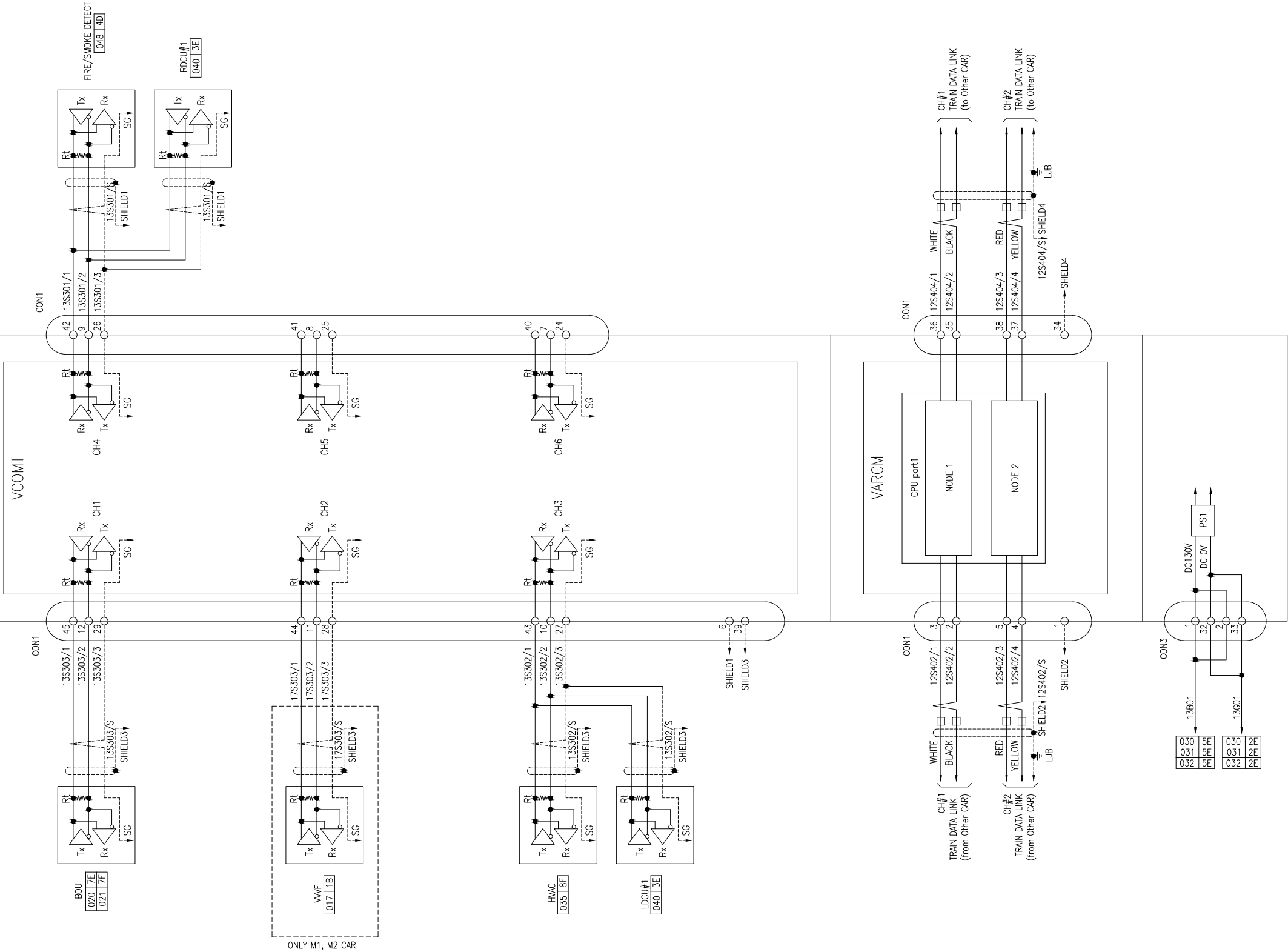


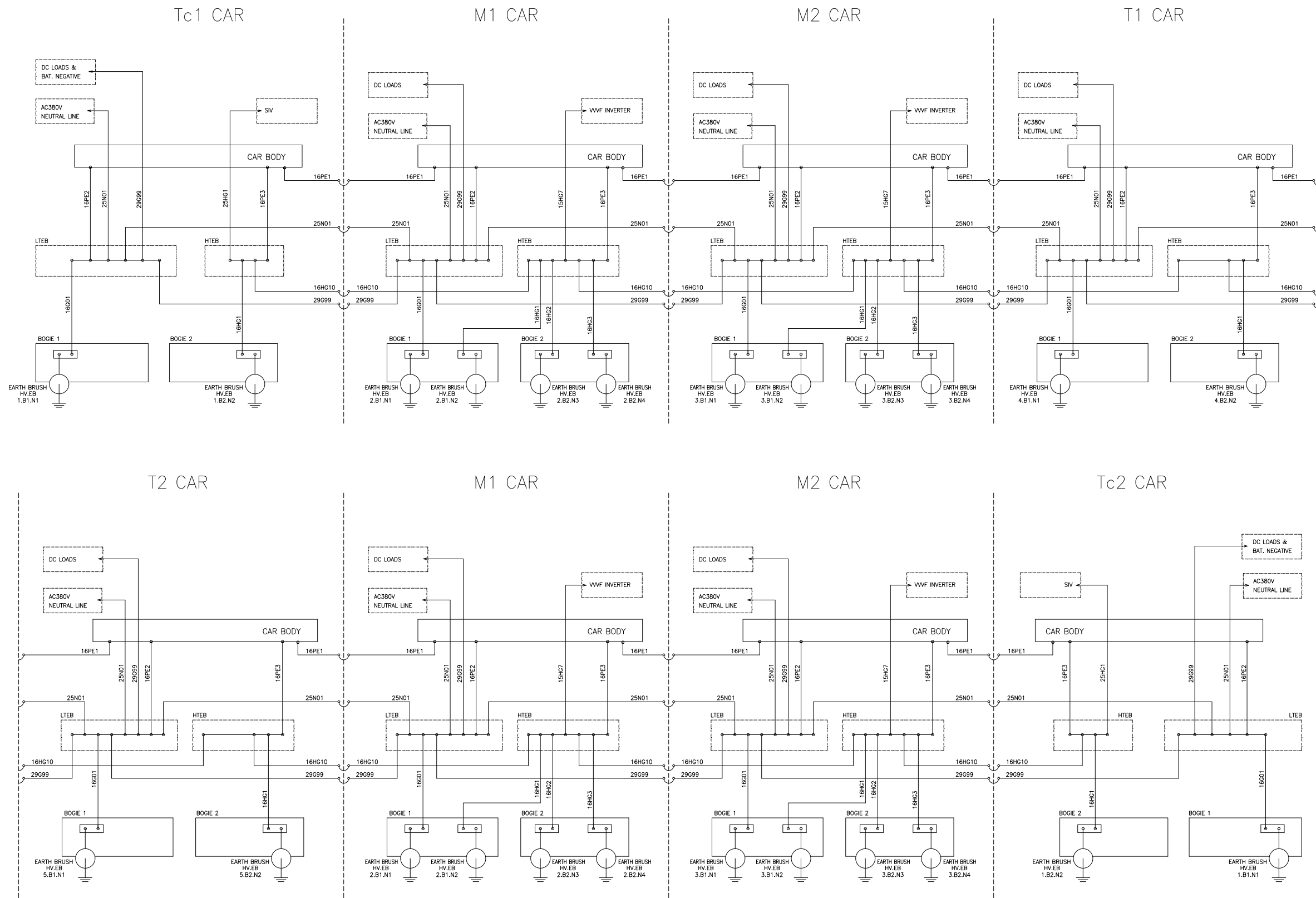


NOTE

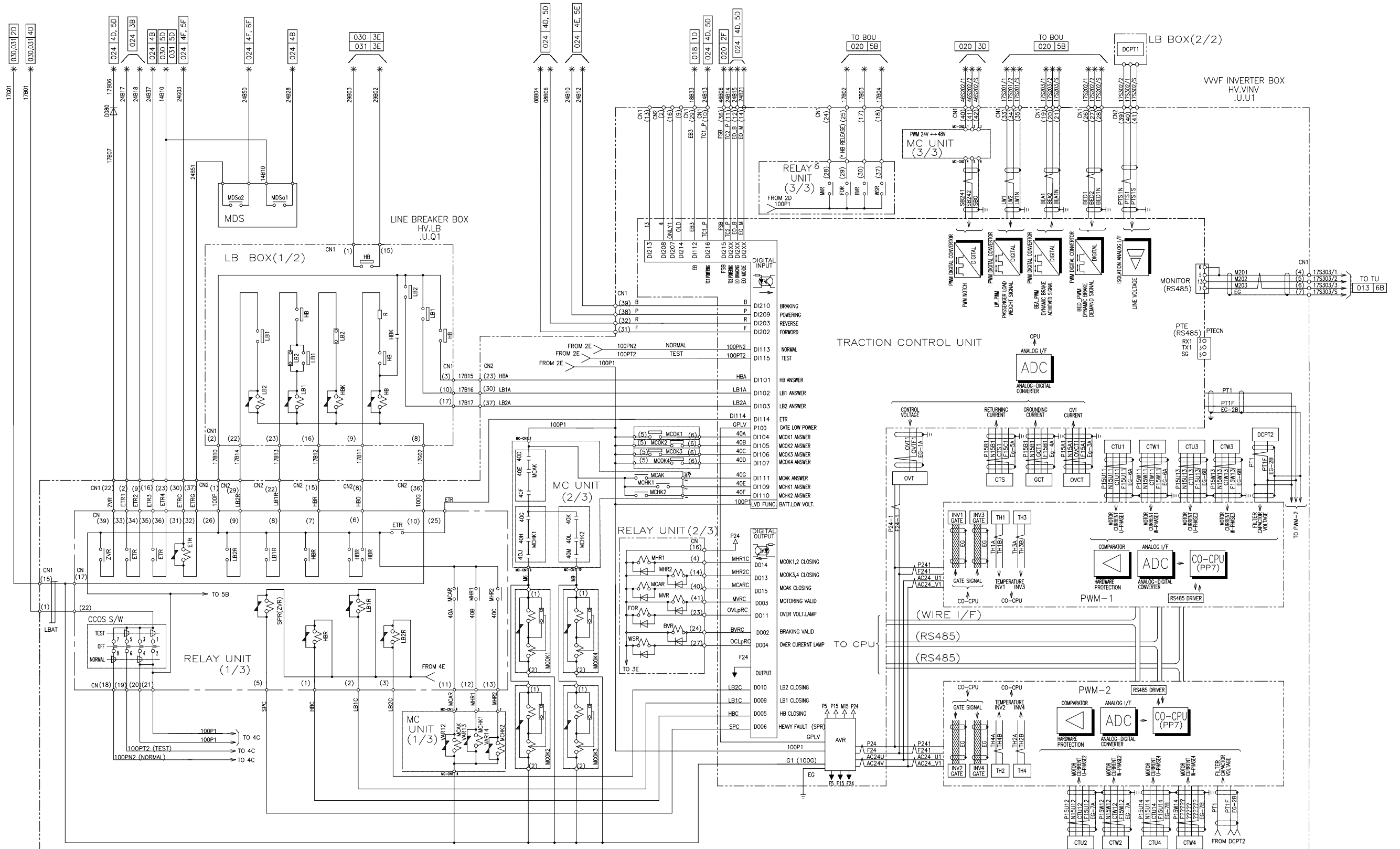
1. Rt : 120 ohm
2. RS-485 통신 Shield는 차체 접지처리

TU INTERFACE DIAGRAM (1/2)

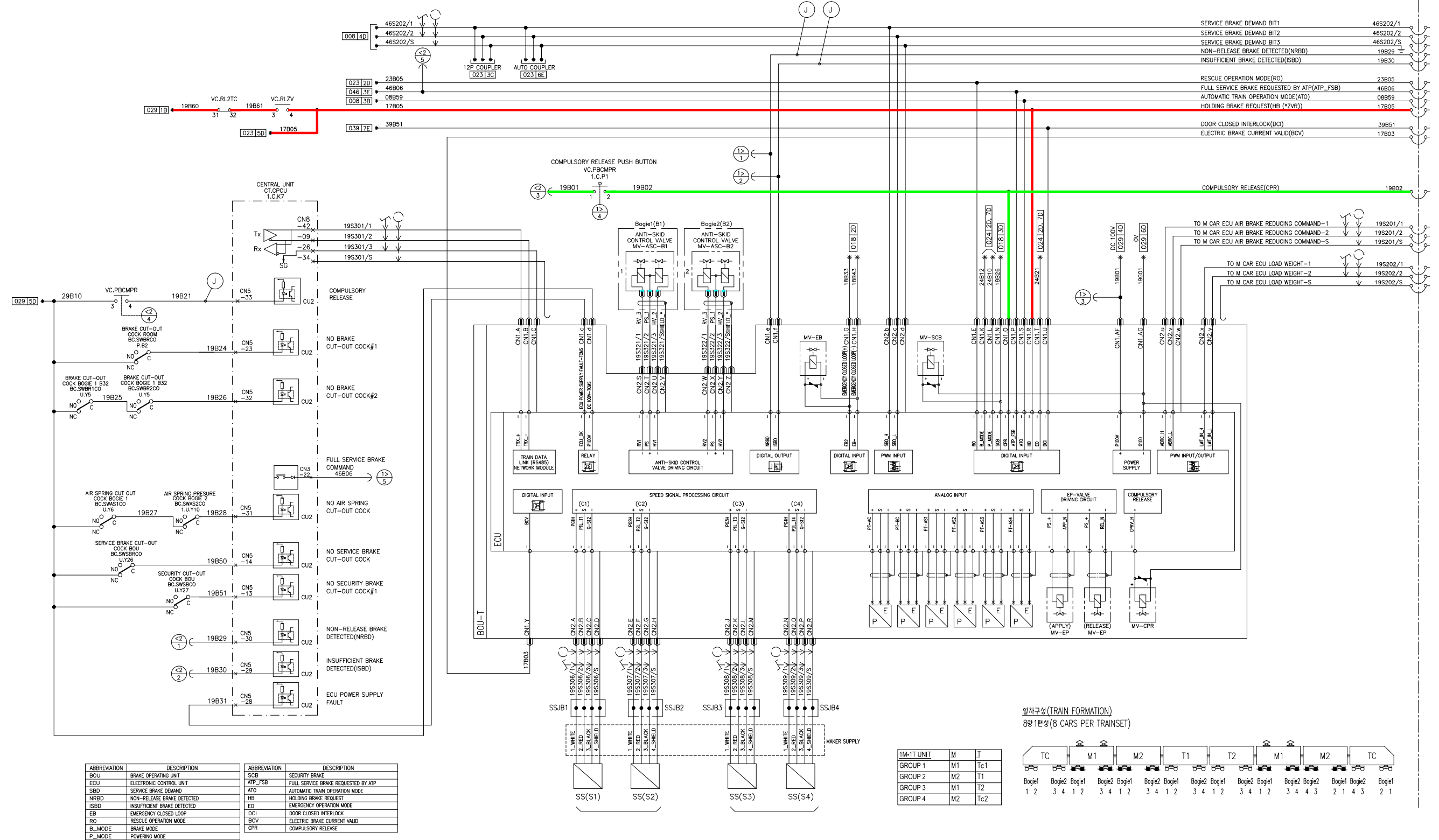


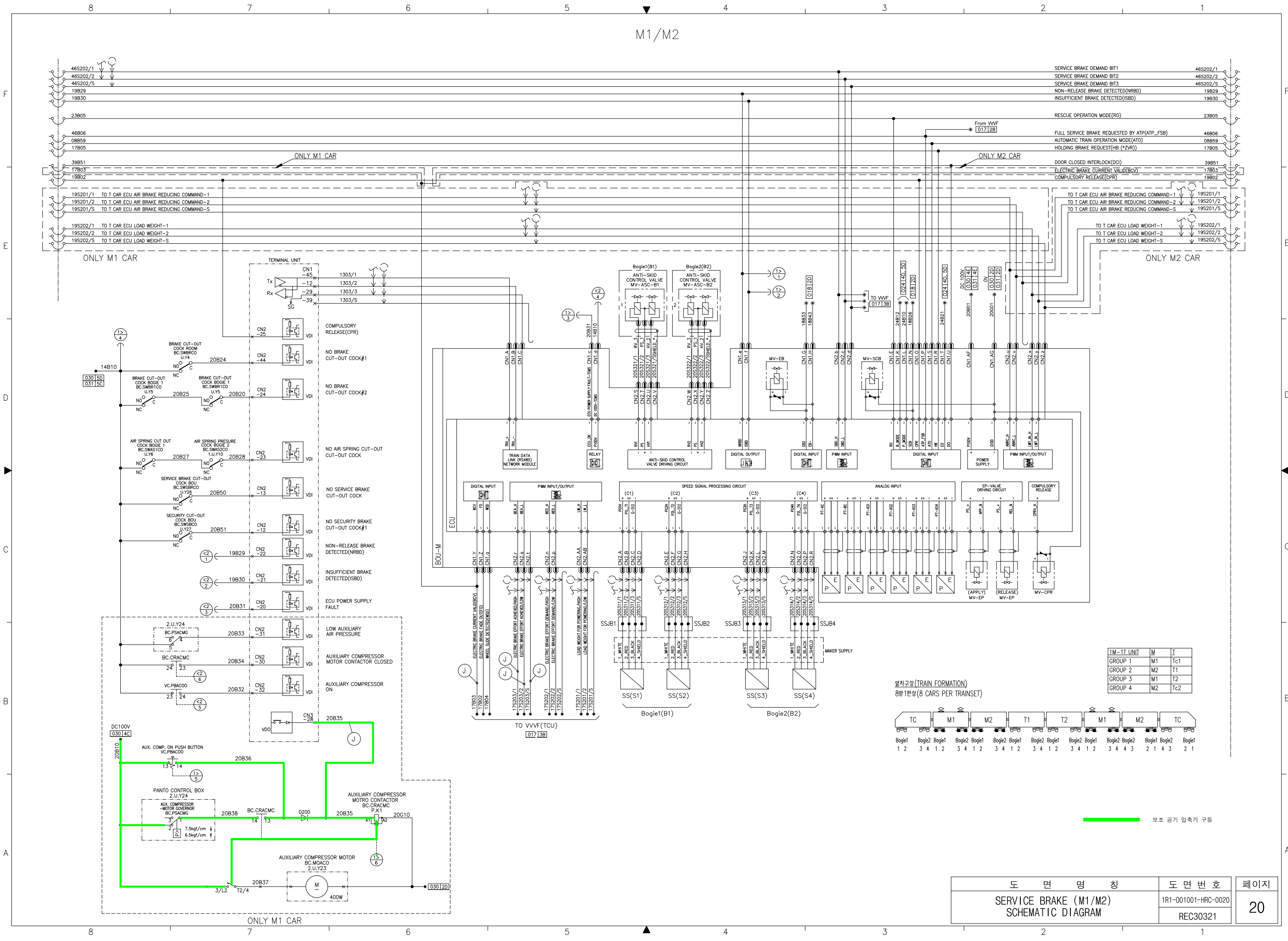


M1 / M2



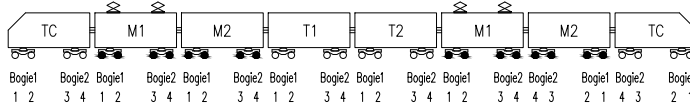
TC1/TC2



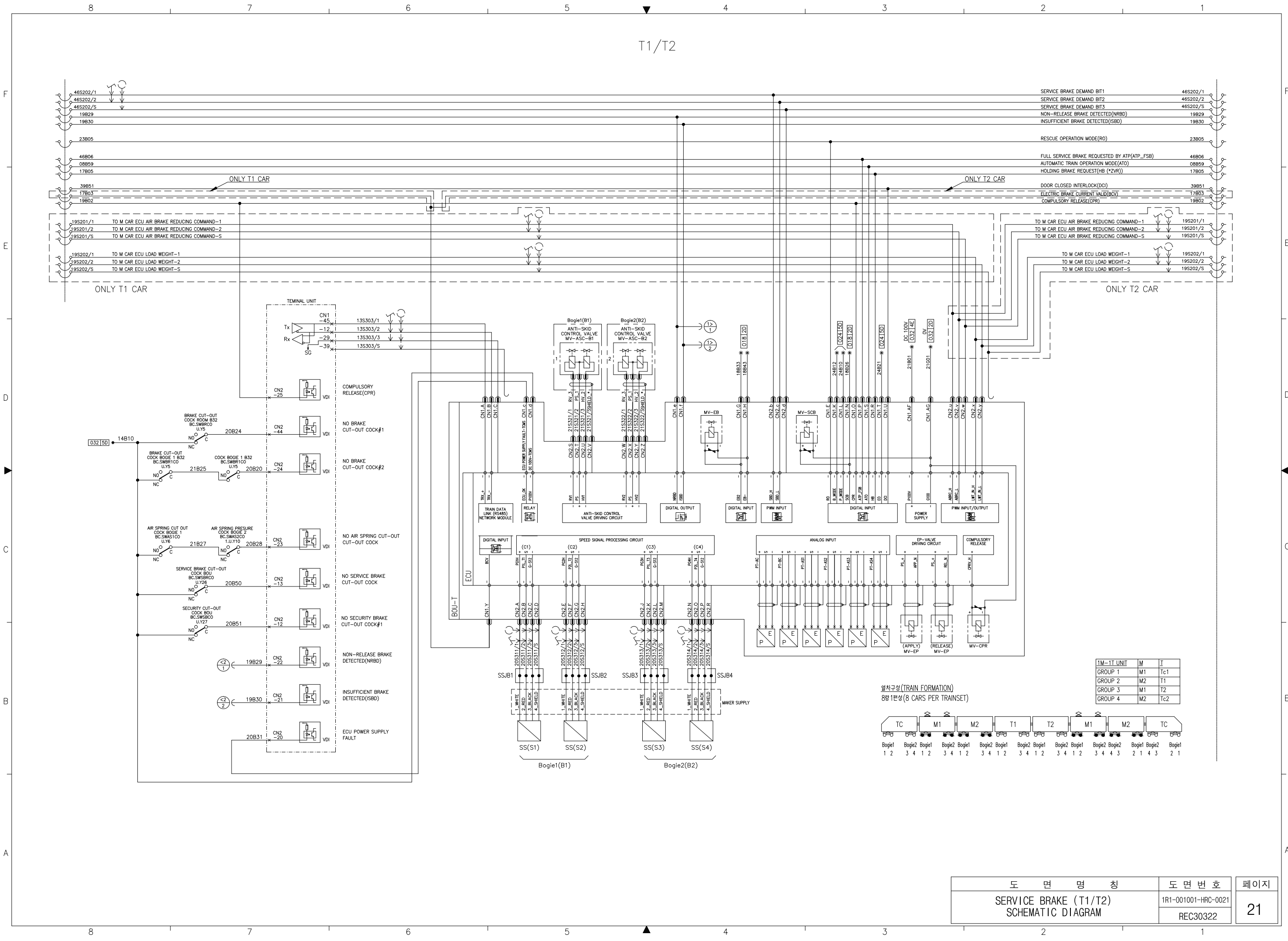


1M-1T UNIT	M	T
GROUP 1	M1	Tc1
GROUP 2	M2	T1
GROUP 3	M1	T2
GROUP 4	M2	Tc2

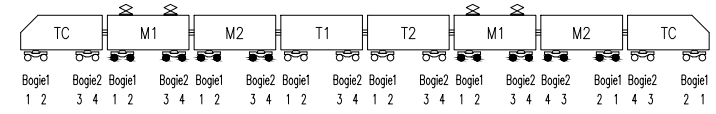
열차구성 (TRAIN FORMATION)
8량1편성 (8 CARS PER TRAINSET)



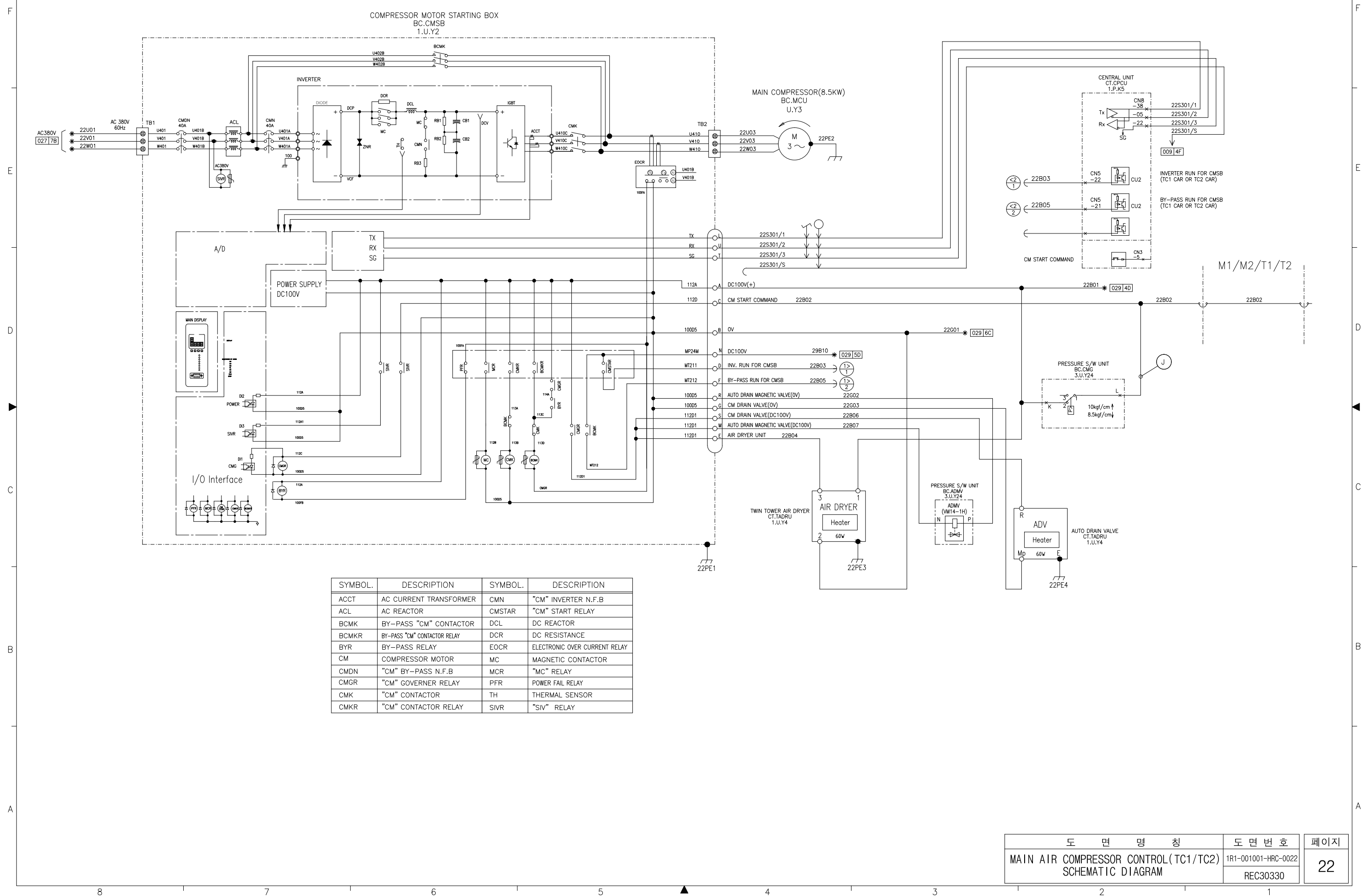
보조 공기 압축기 구동



열차구성 (TRAIN FORMATION)
8량 1편성 (8 CARS PER TRAINSET)



1M-1T UNIT	M	T
GROUP 1	M1	Tc1
GROUP 2	M2	T1
GROUP 3	M1	T2
GROUP 4	M2	Tc2



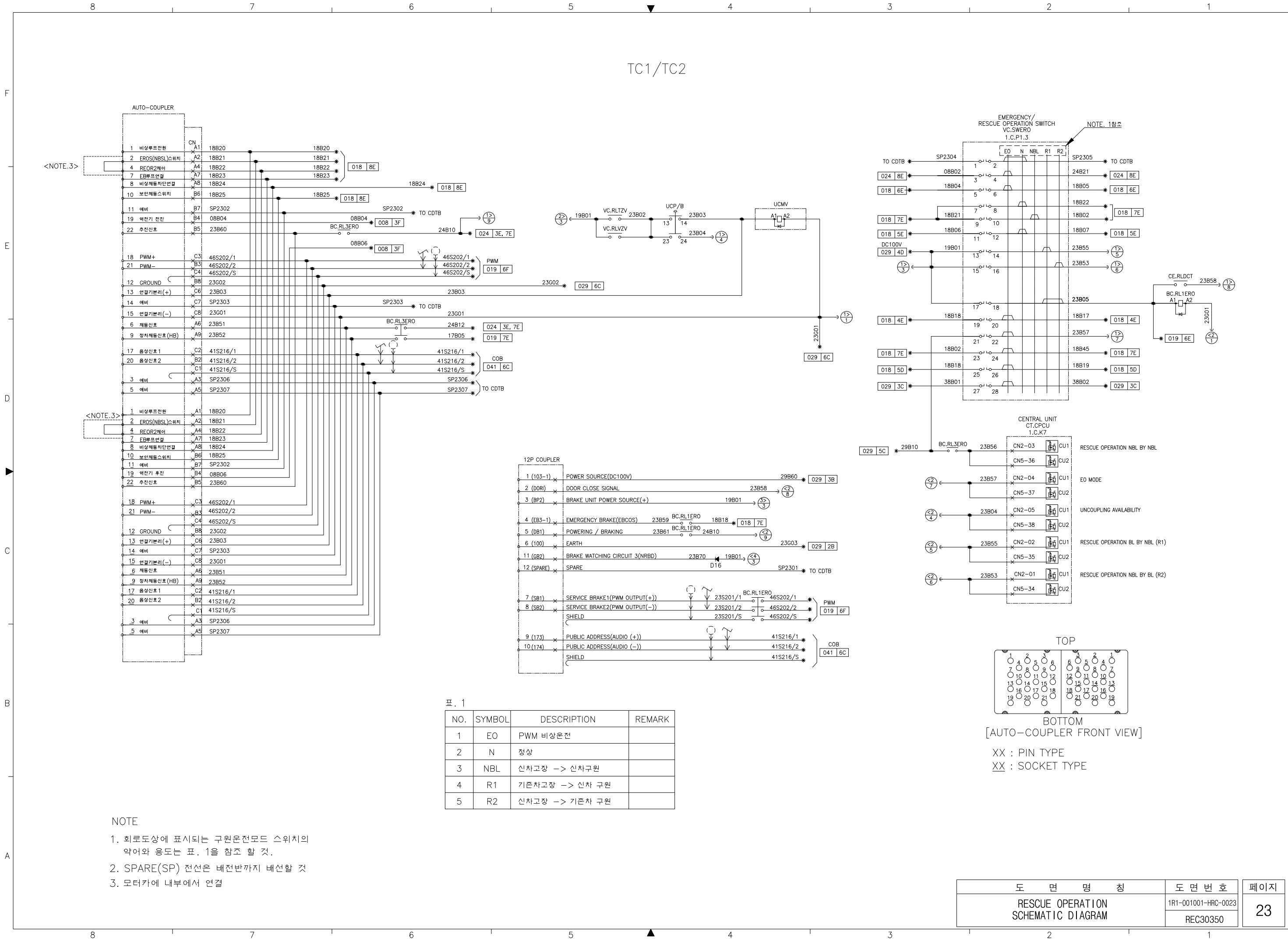
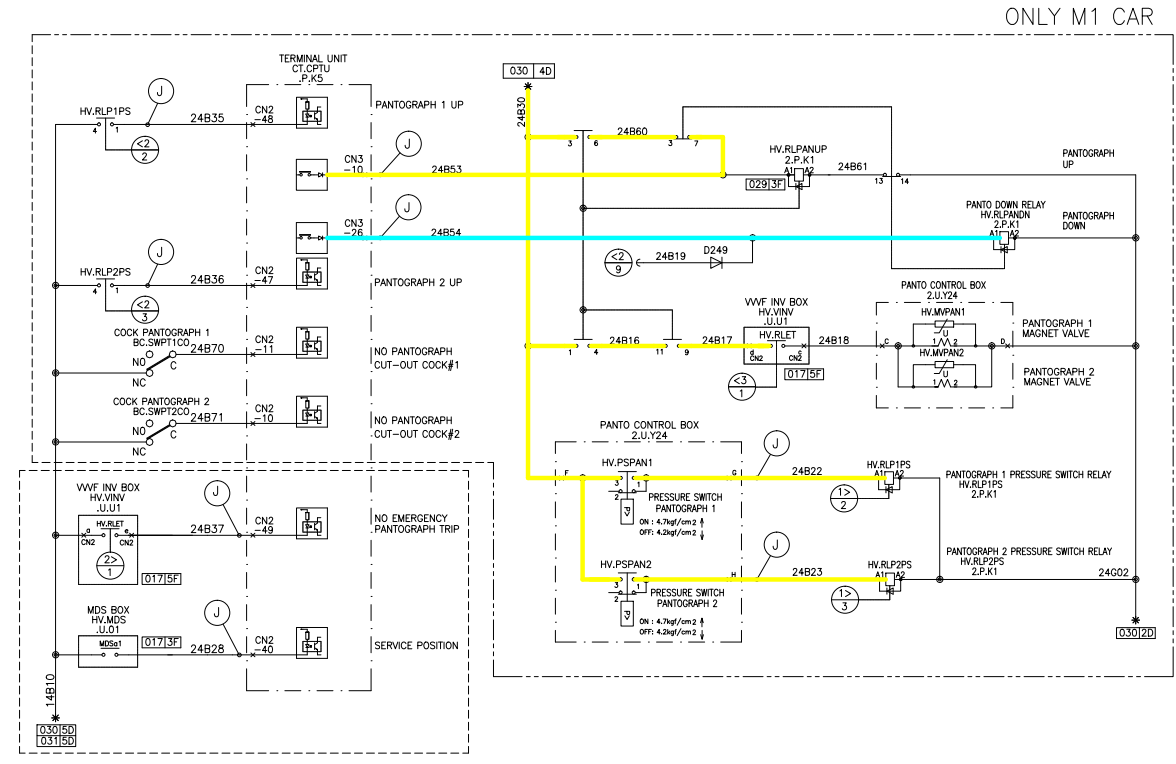
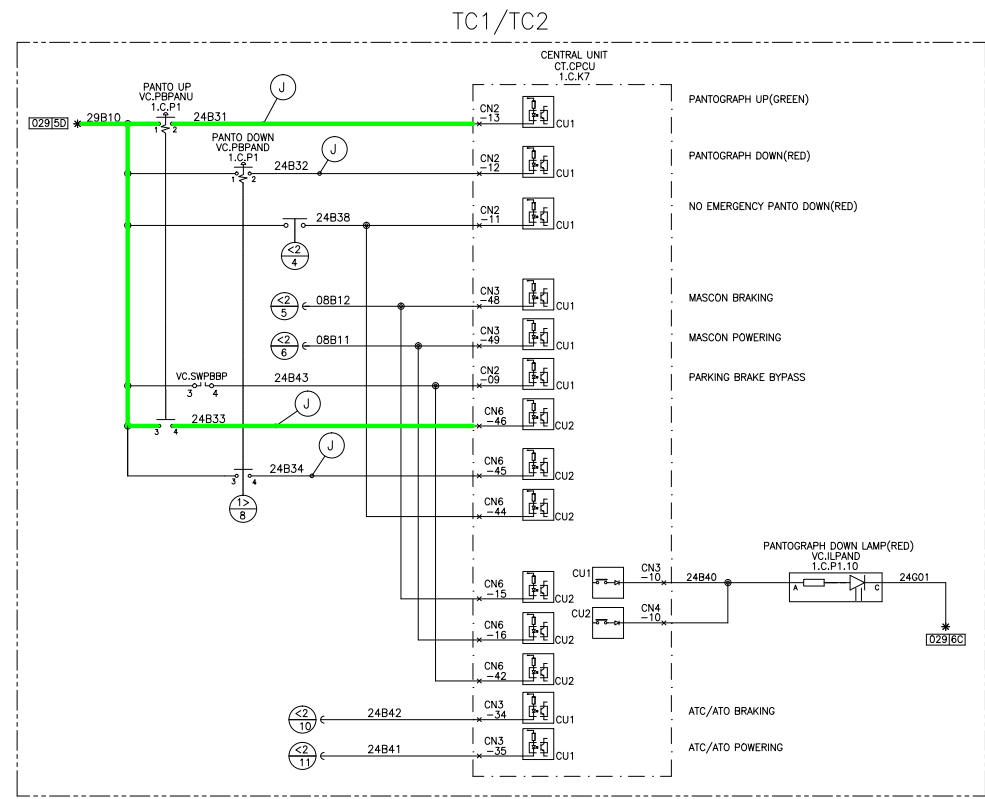
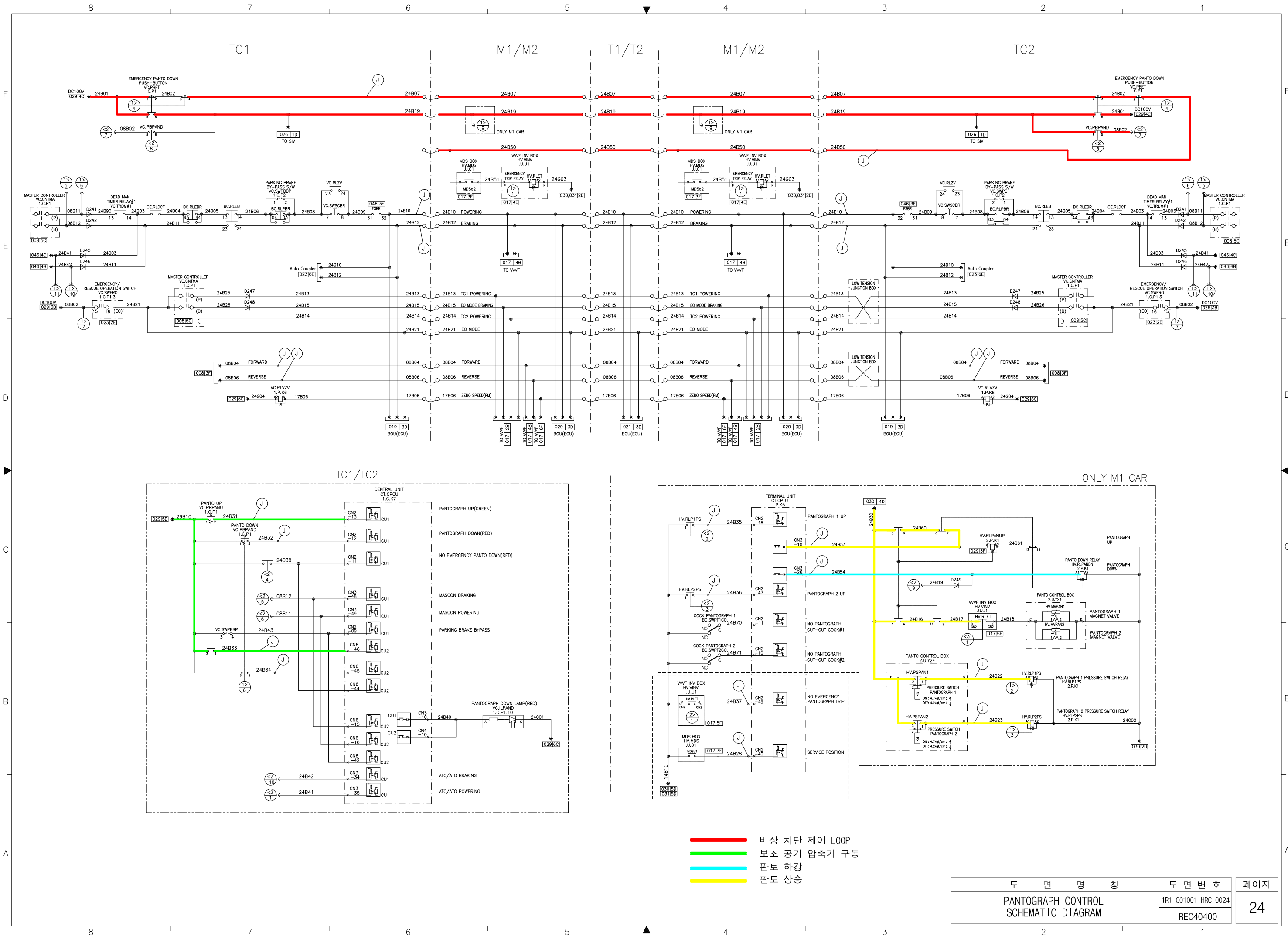


표. 1

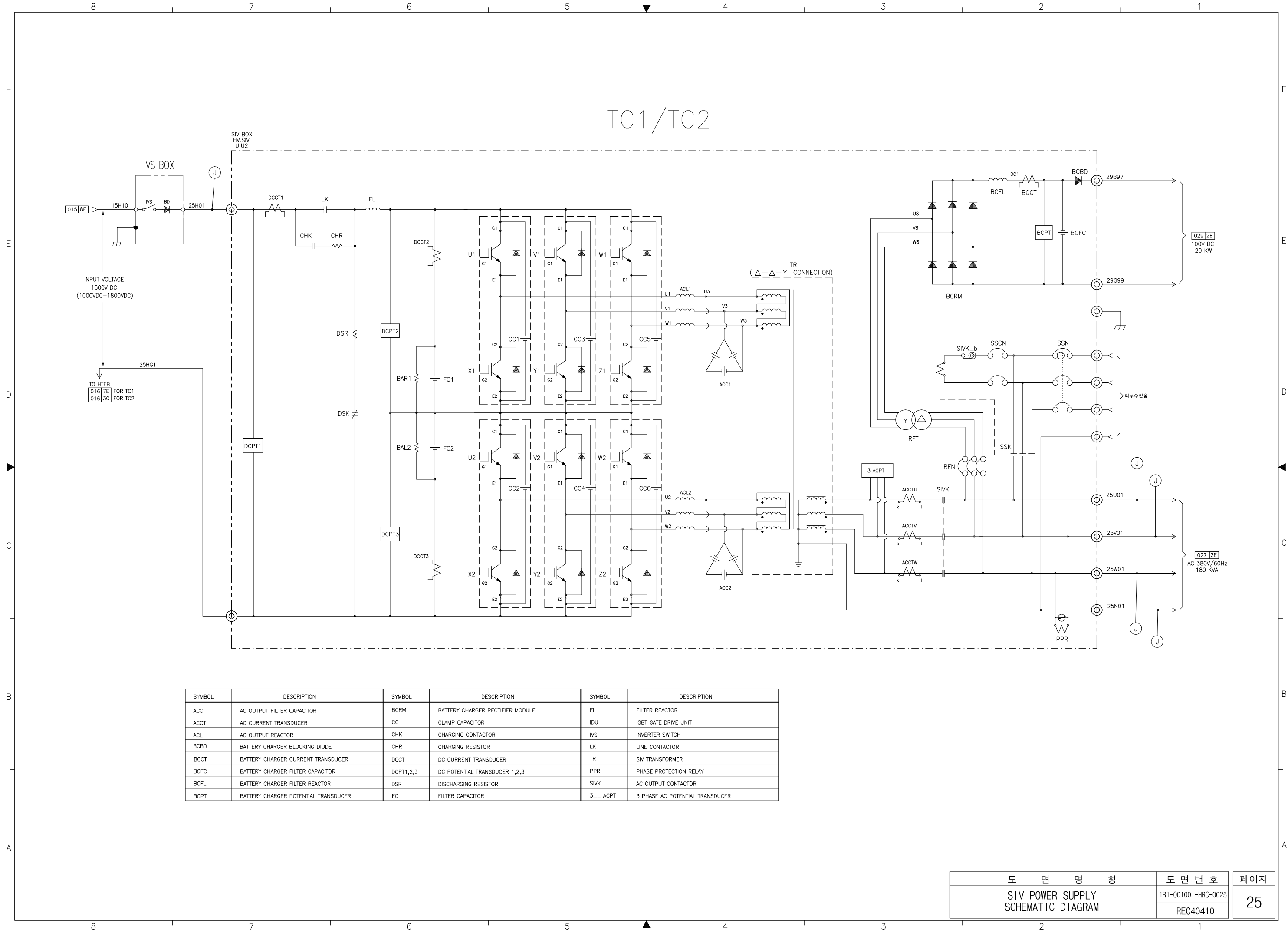
NO.	SYMBOL	DESCRIPTION	REMARK
1	EO	PWM 비상운전	
2	N	정상	
3	NBL	신차고장 -> 신차구원	
4	R1	기존차고장 -> 신차 구원	
5	R2	신차고장 -> 기존차 구원	

- NOTE
- 회로도상에 표시되는 구원운전모드 스위치의 약어와 용도는 표. 1을 참조 할 것.
 - SPARE(SP) 전선은 배전반까지 배선할 것
 - 모터카에 내부에서 연결

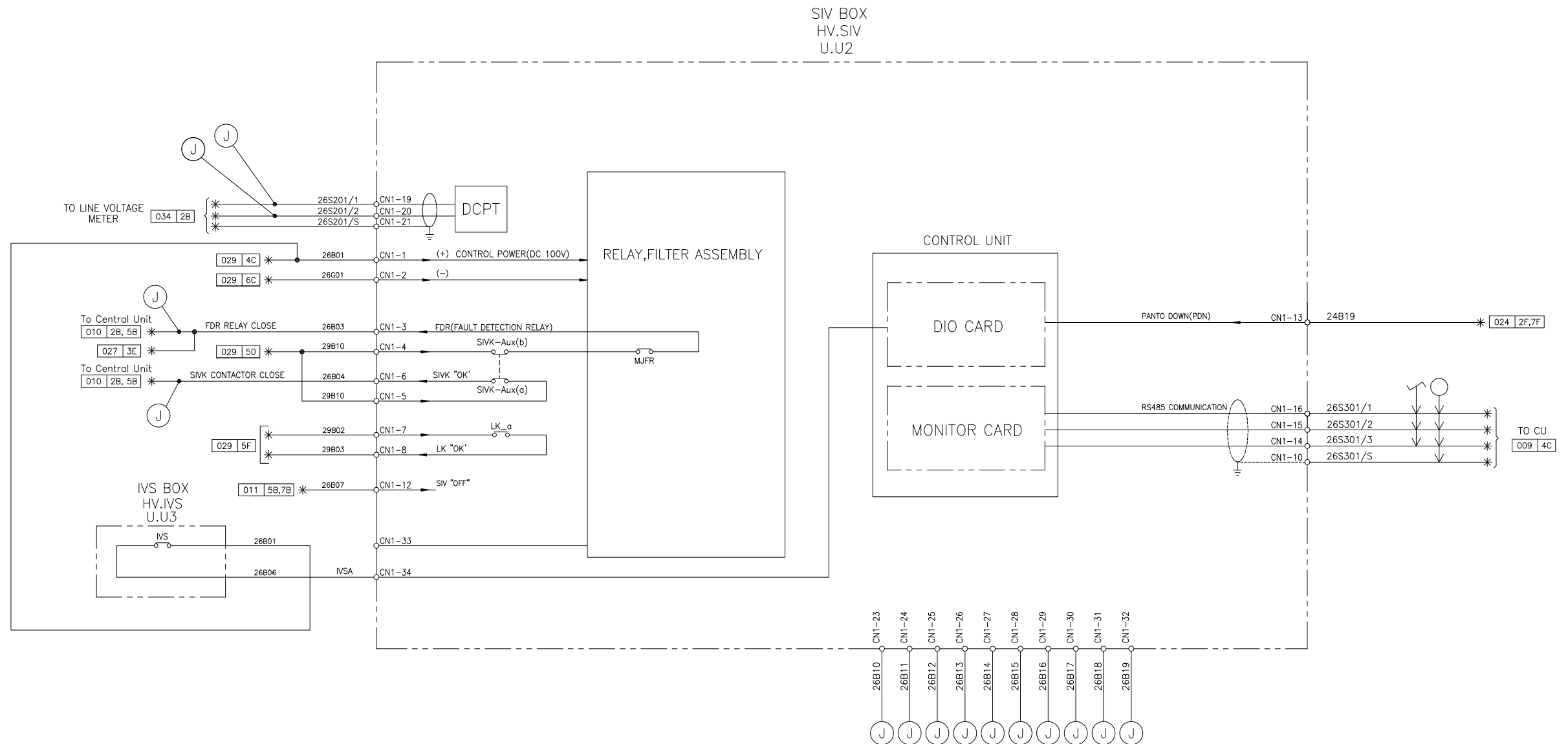


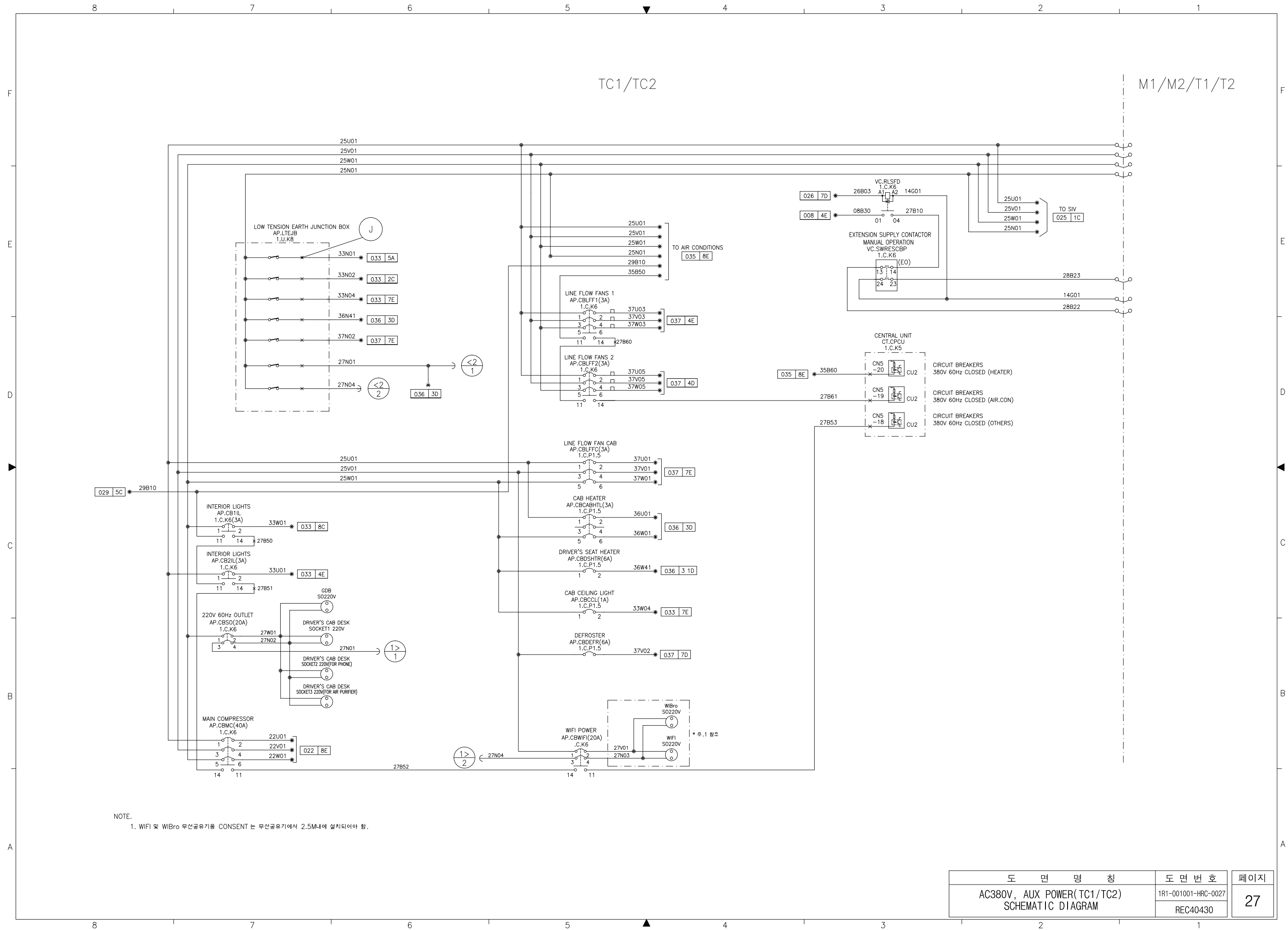
- 비상 차단 제어 L00P
- 보조 공기 압축기 구동
- 판토 하강
- 판토 상승

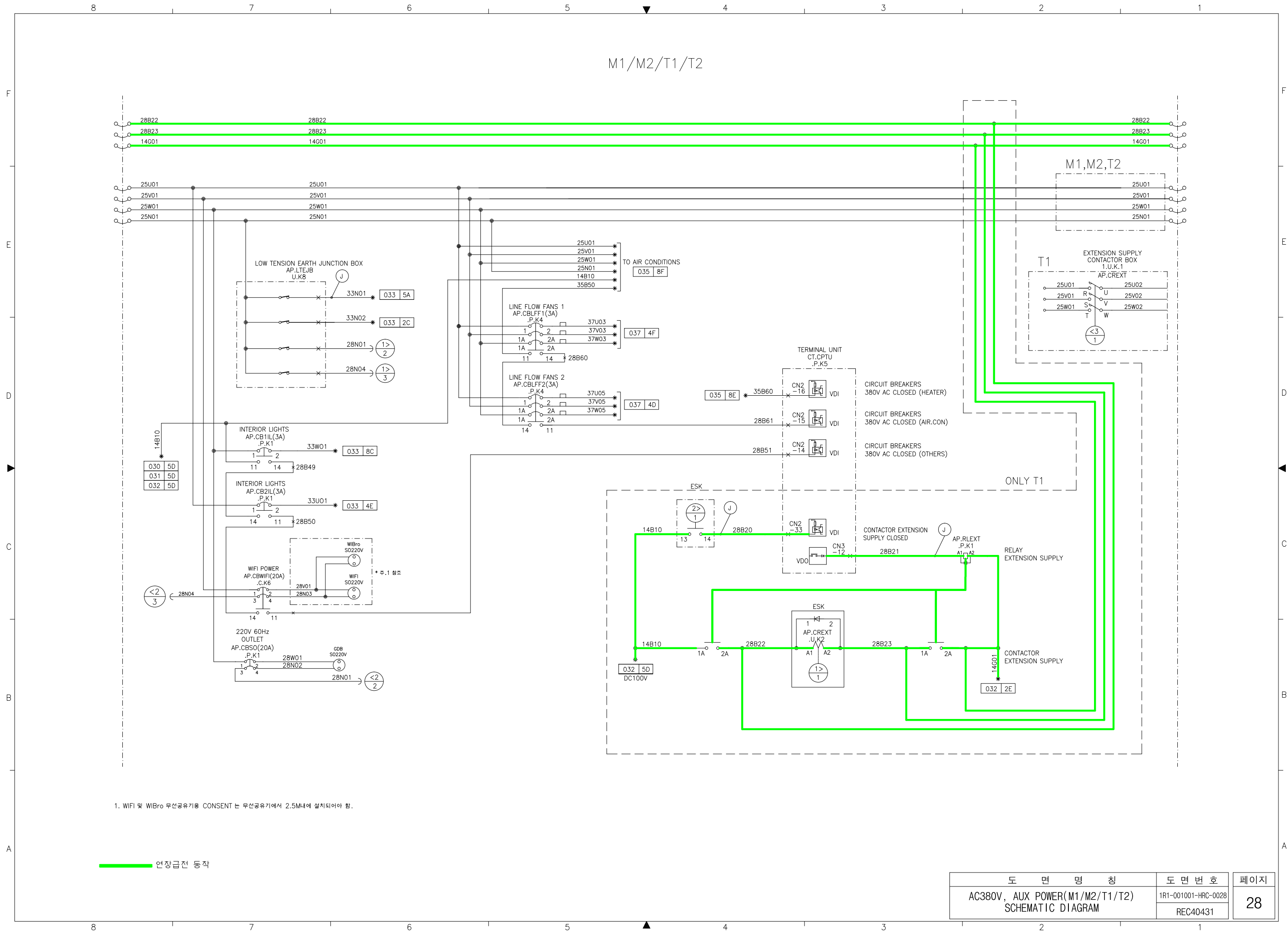
도면명칭	도면번호	페이지
PANTOGRAPH CONTROL SCHEMATIC DIAGRAM	1R1-001001-HRC-0024	24
	REC40400	

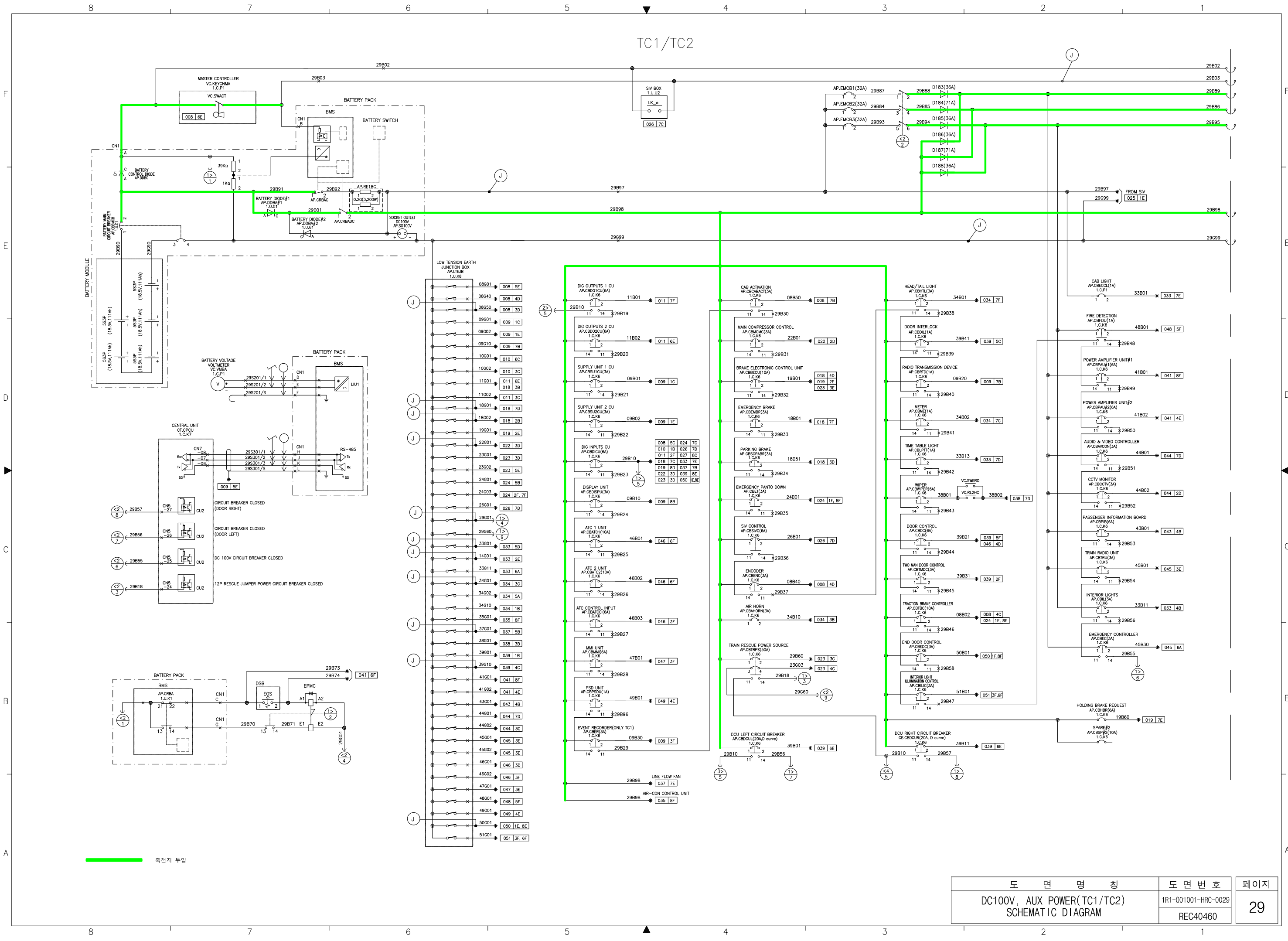


TC1/TC2



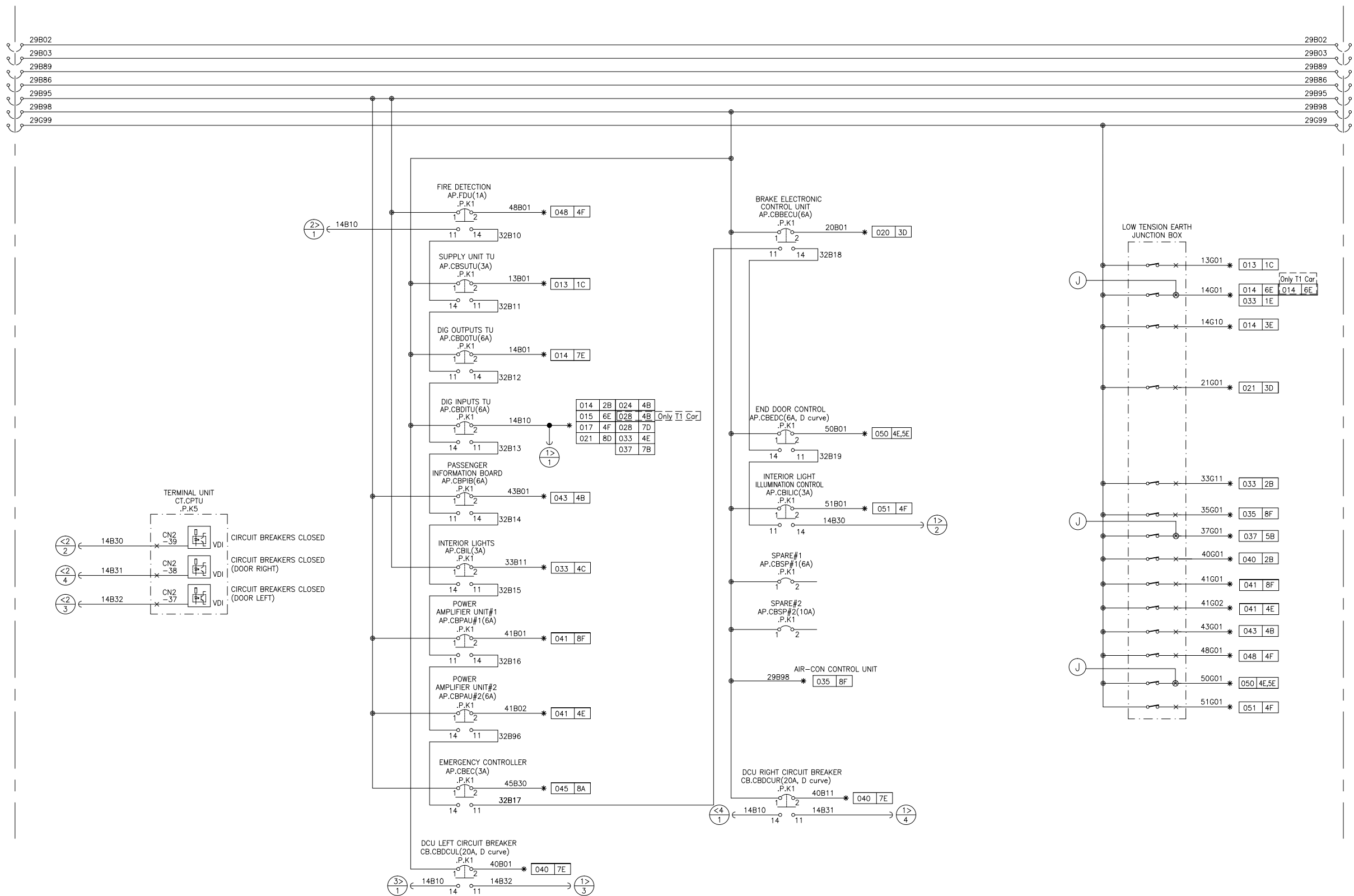


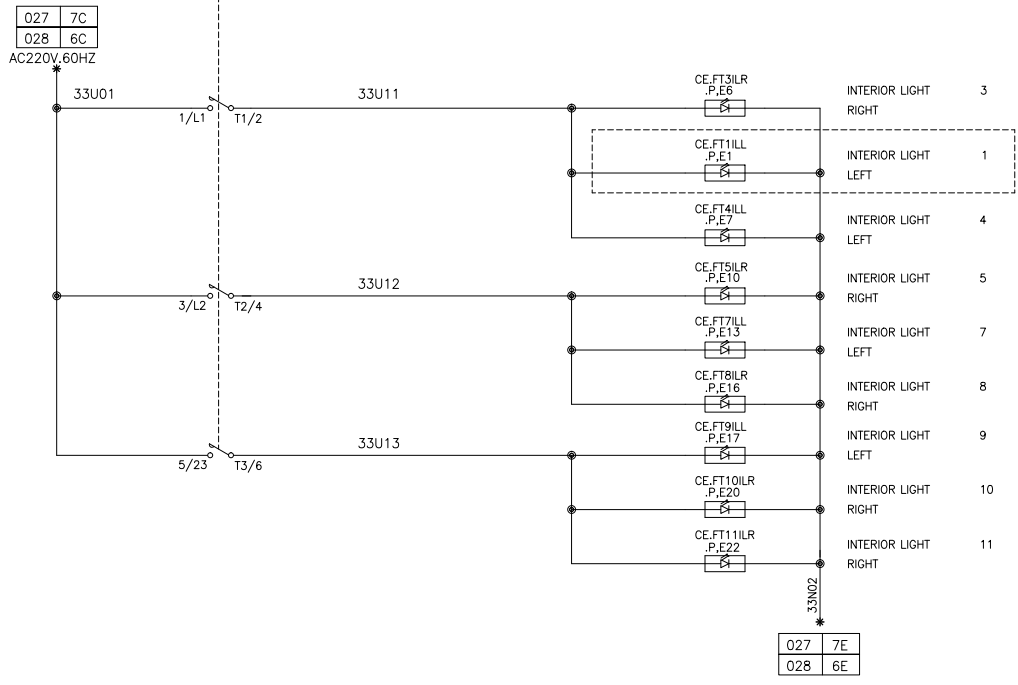
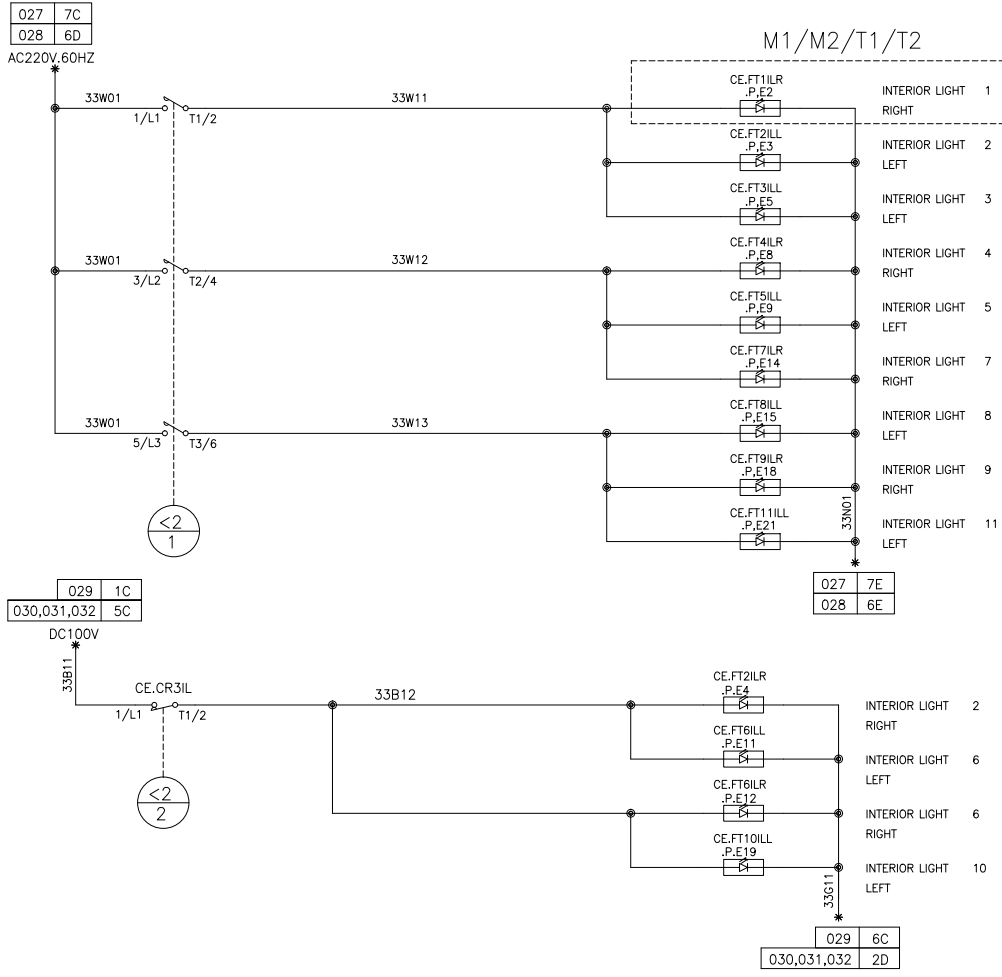
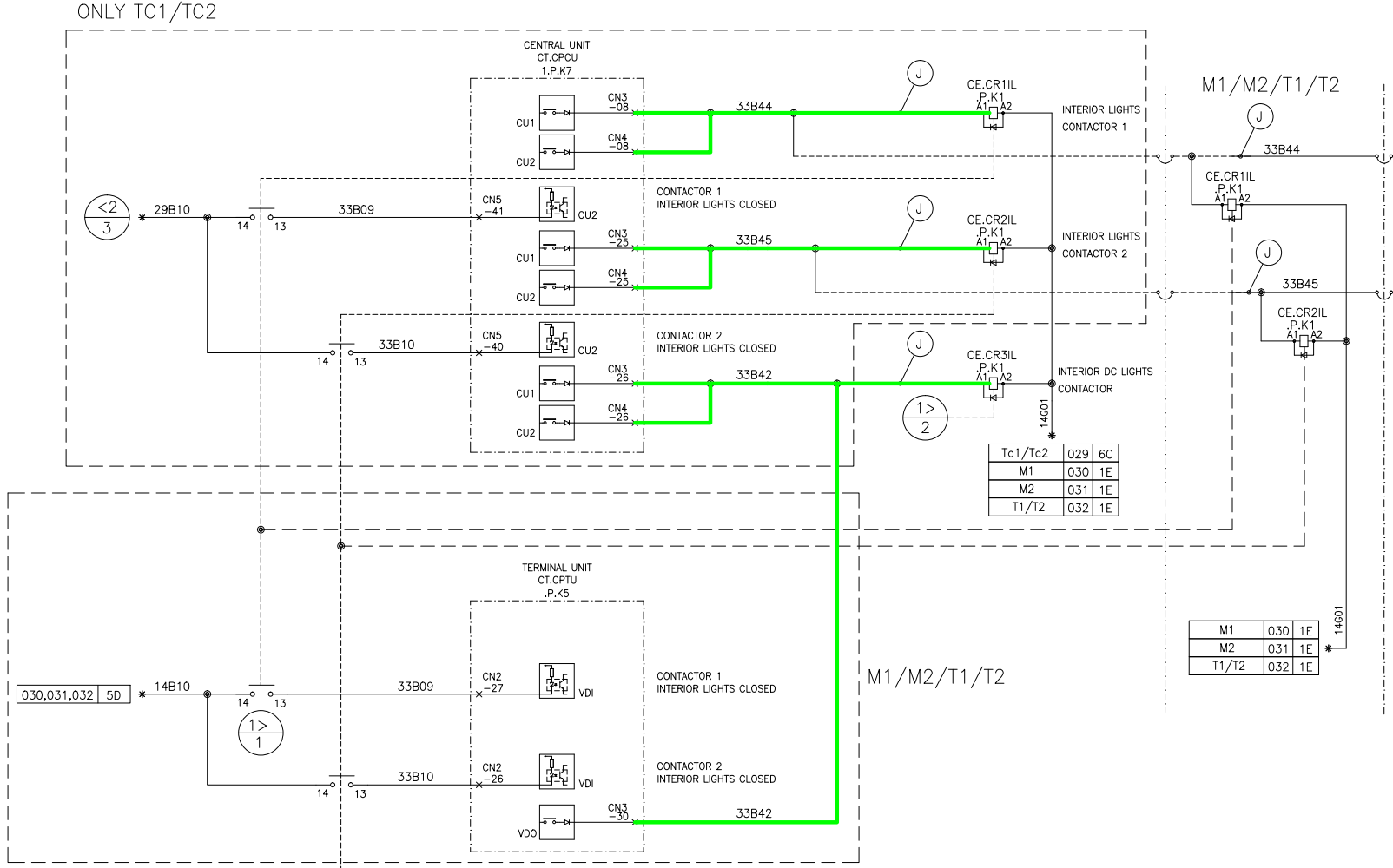
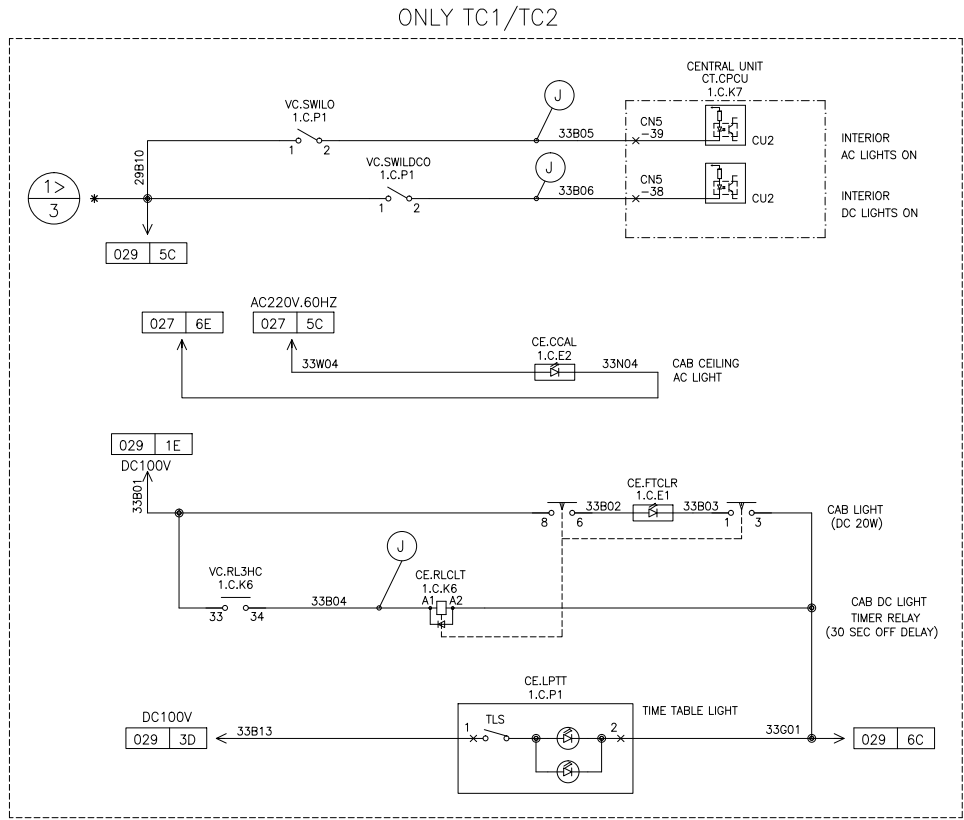






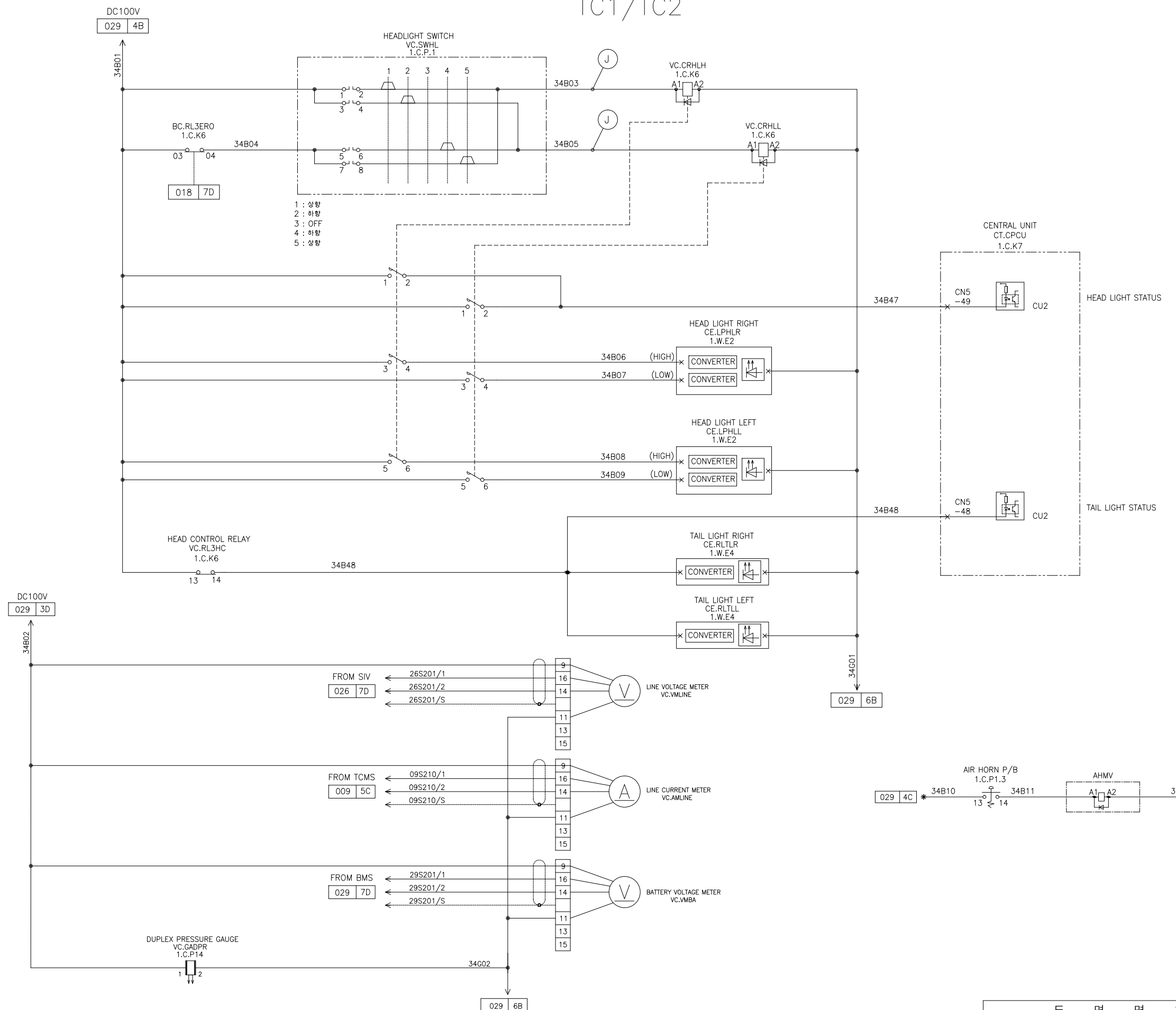
T1/T2

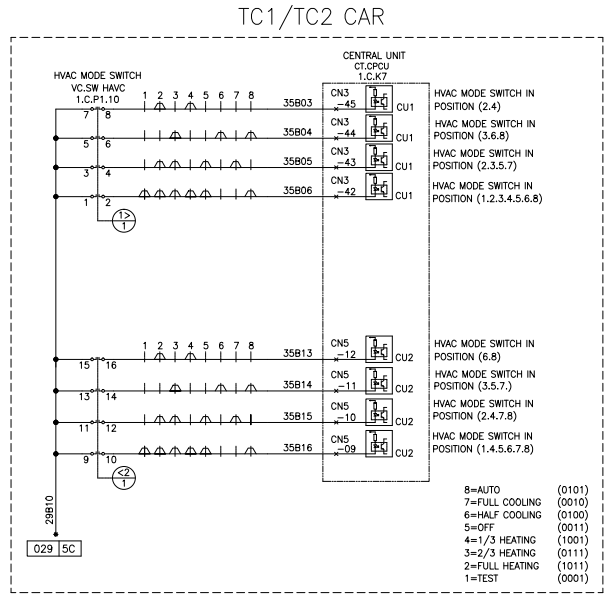
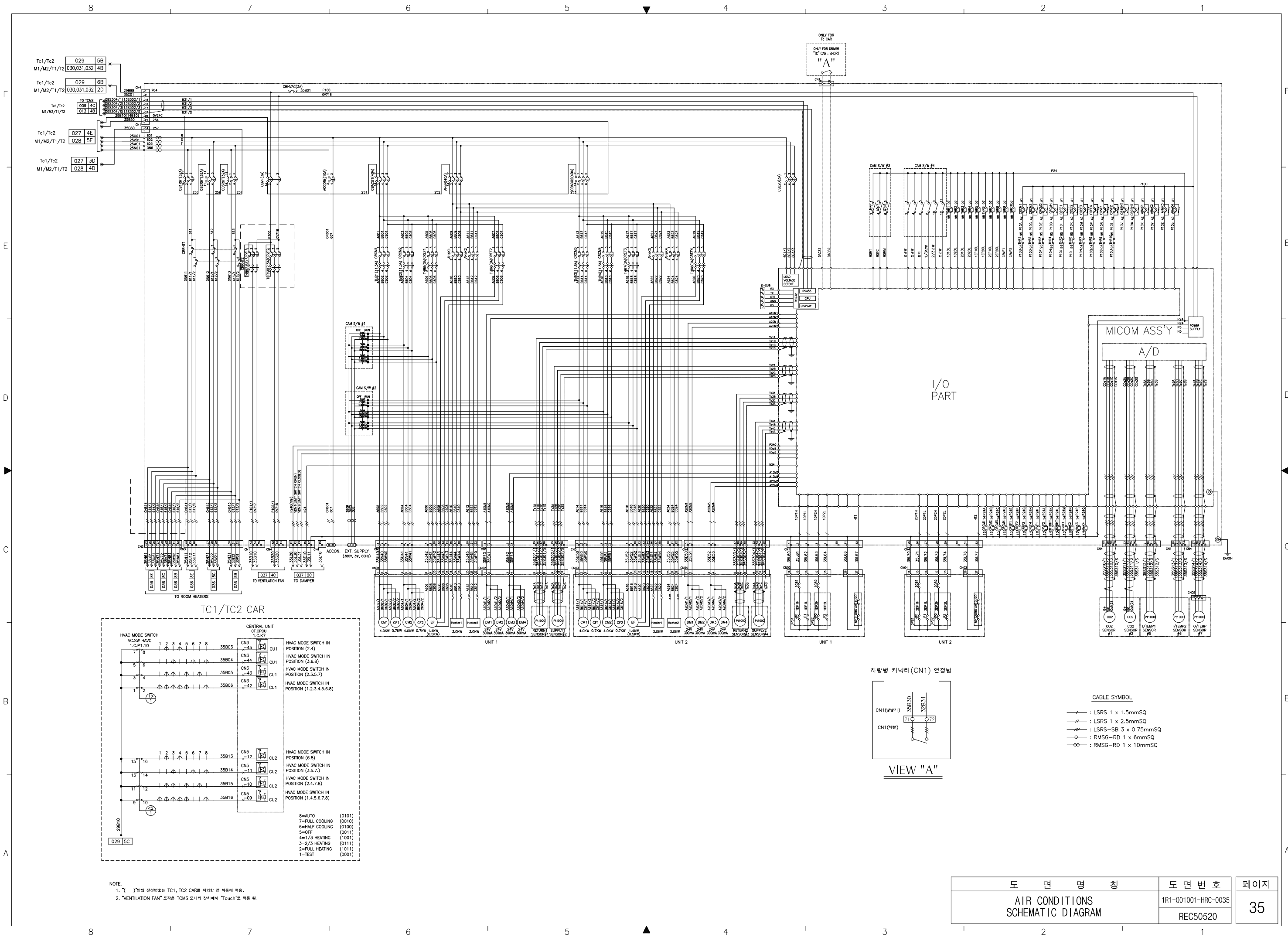




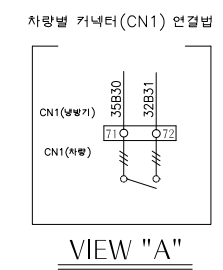
실내등 제어

TC1/TC2

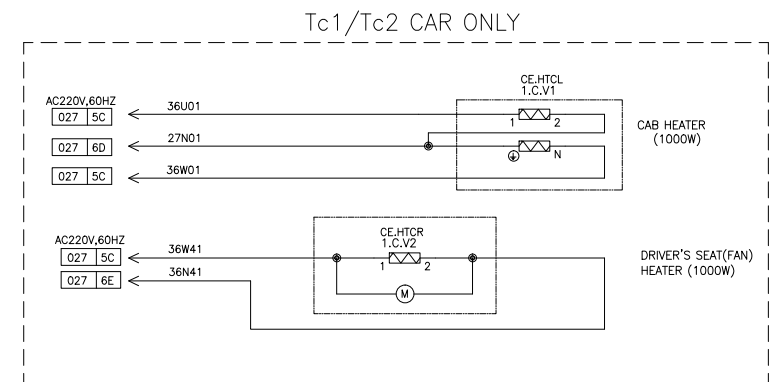
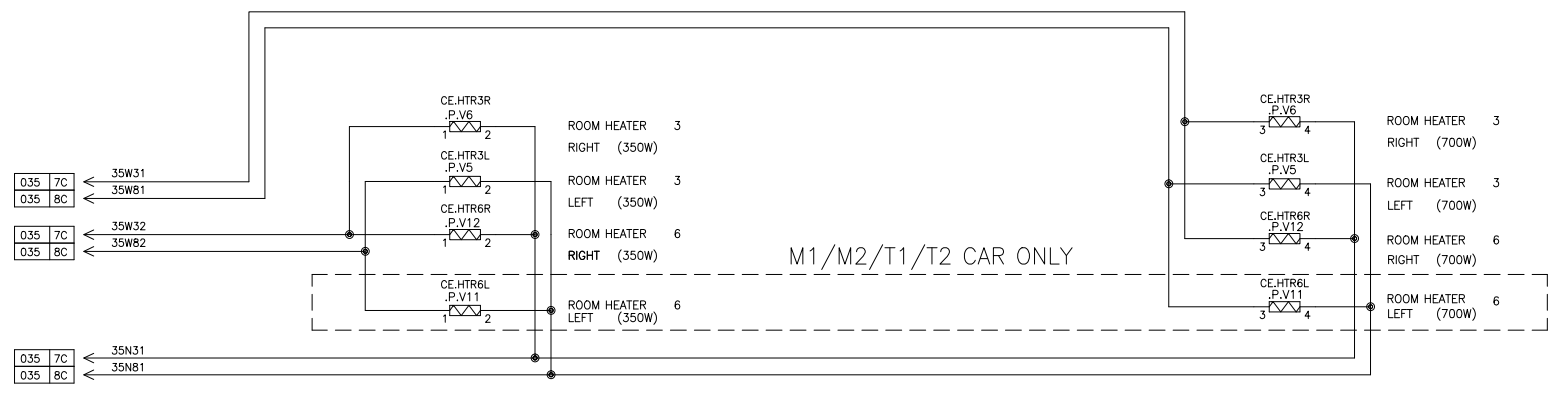
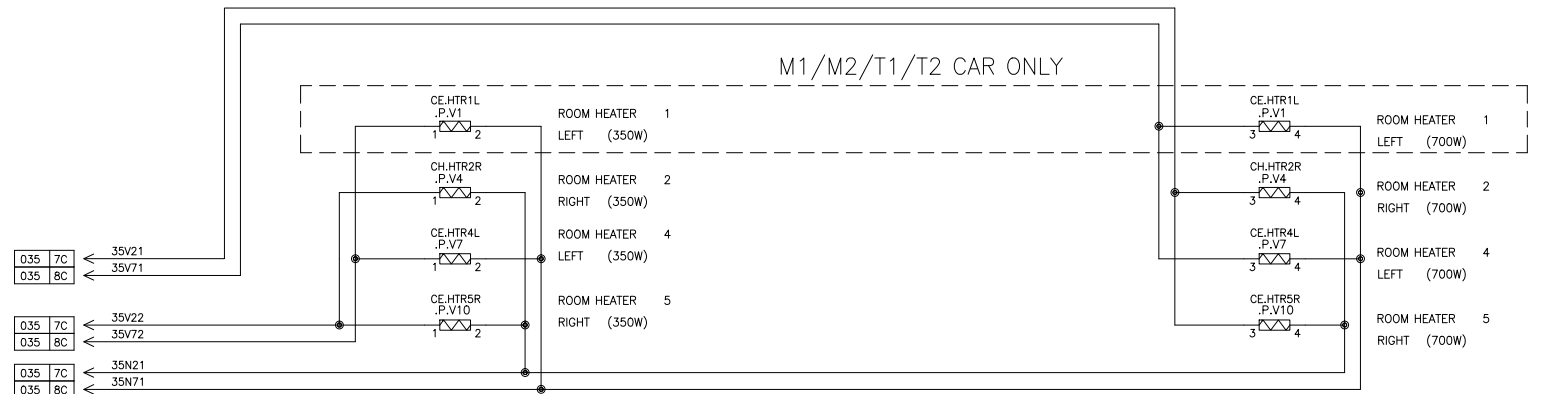
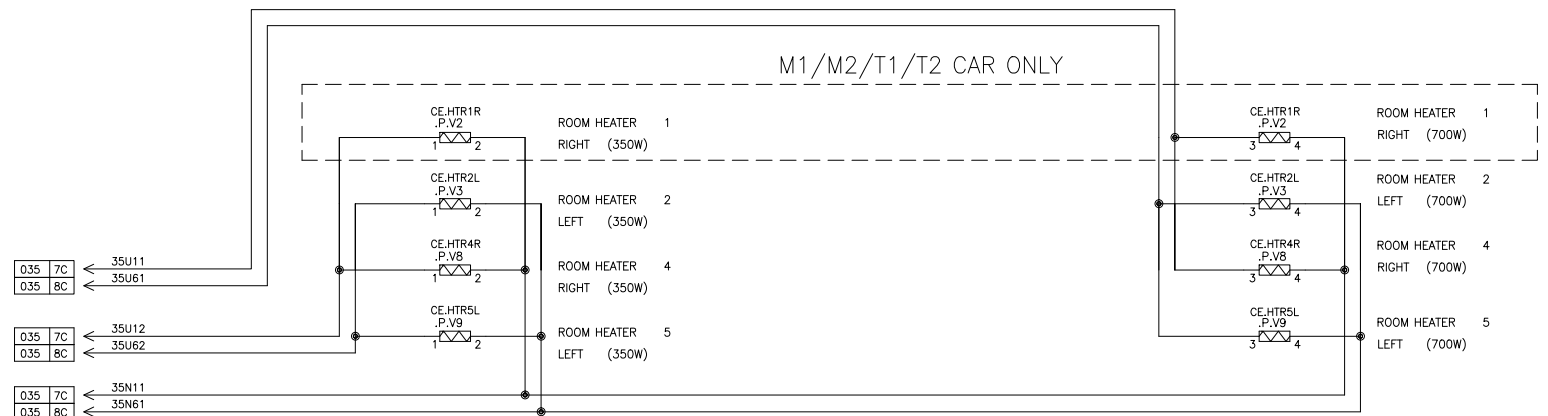




NOTE.
1. ()안의 전선번호는 TC1, TC2 CAR를 제외한 전 차종에 적용.
2. "VENTILATION FAN" 조작은 TMS 모드의 장치에서 "Touch"로 작동 됨.



CABLE SYMBOL
— : LSRS 1 x 1.5mmSQ
— : LSRS 1 x 2.5mmSQ
— : LSRS-SB 3 x 0.75mmSQ
— : RMSG-RD 1 x 6mmSQ
— : RMSG-RD 1 x 10mmSQ



F

E

D

C

B

A

F

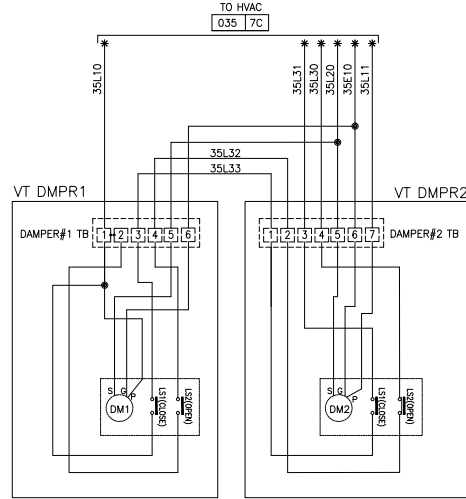
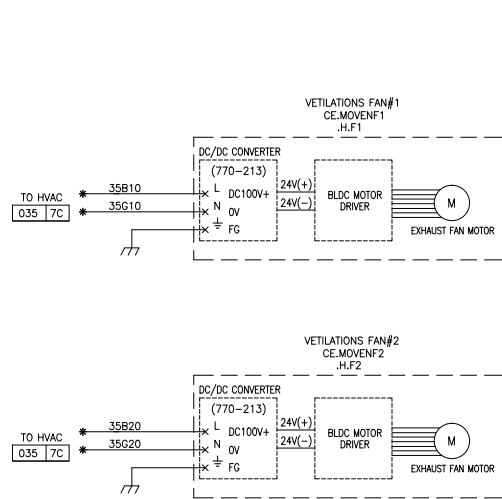
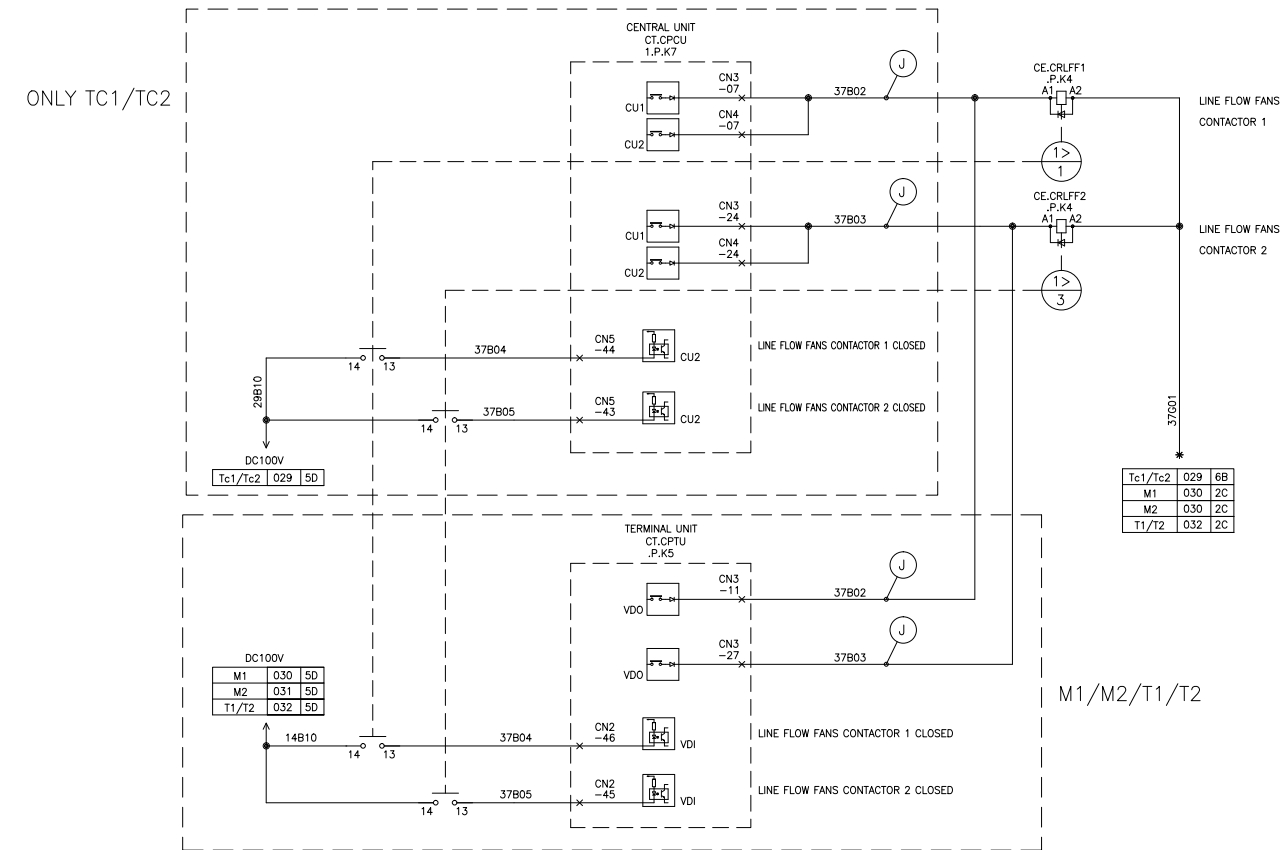
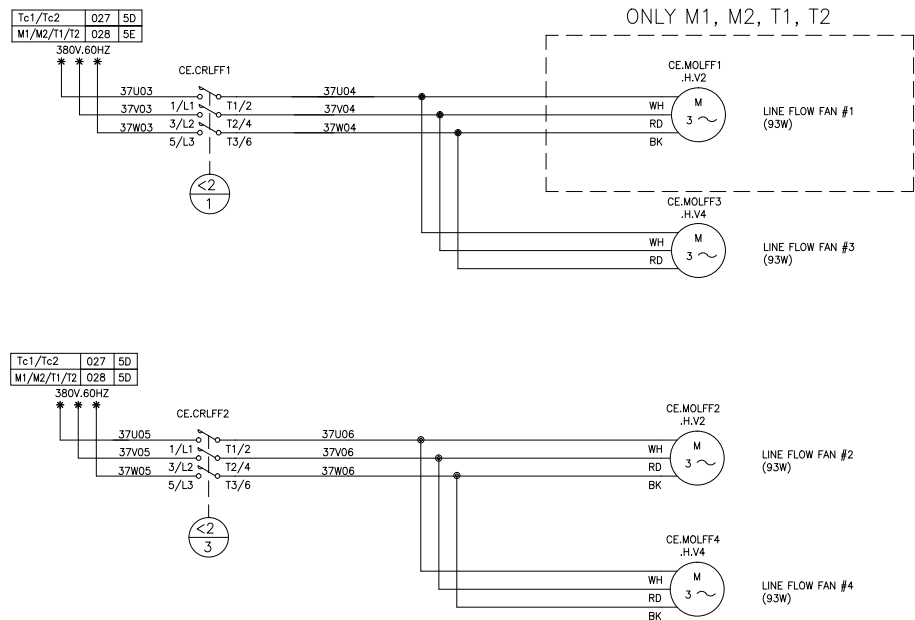
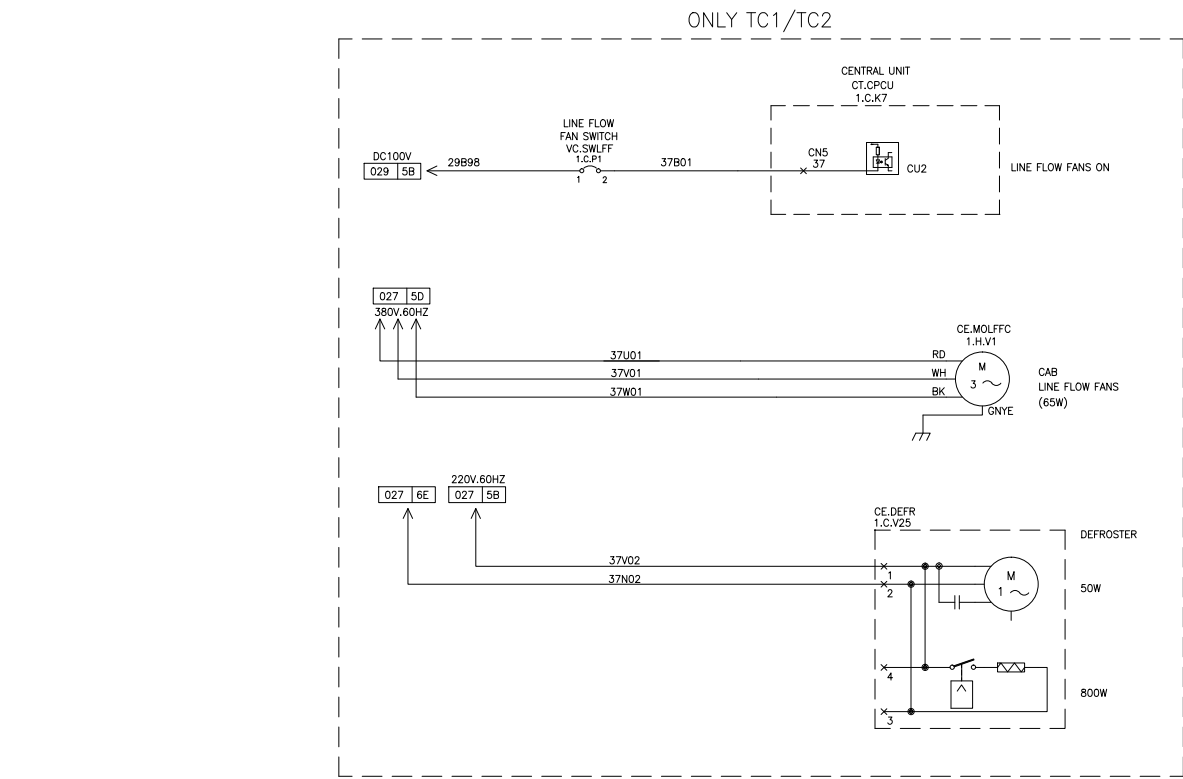
E

D

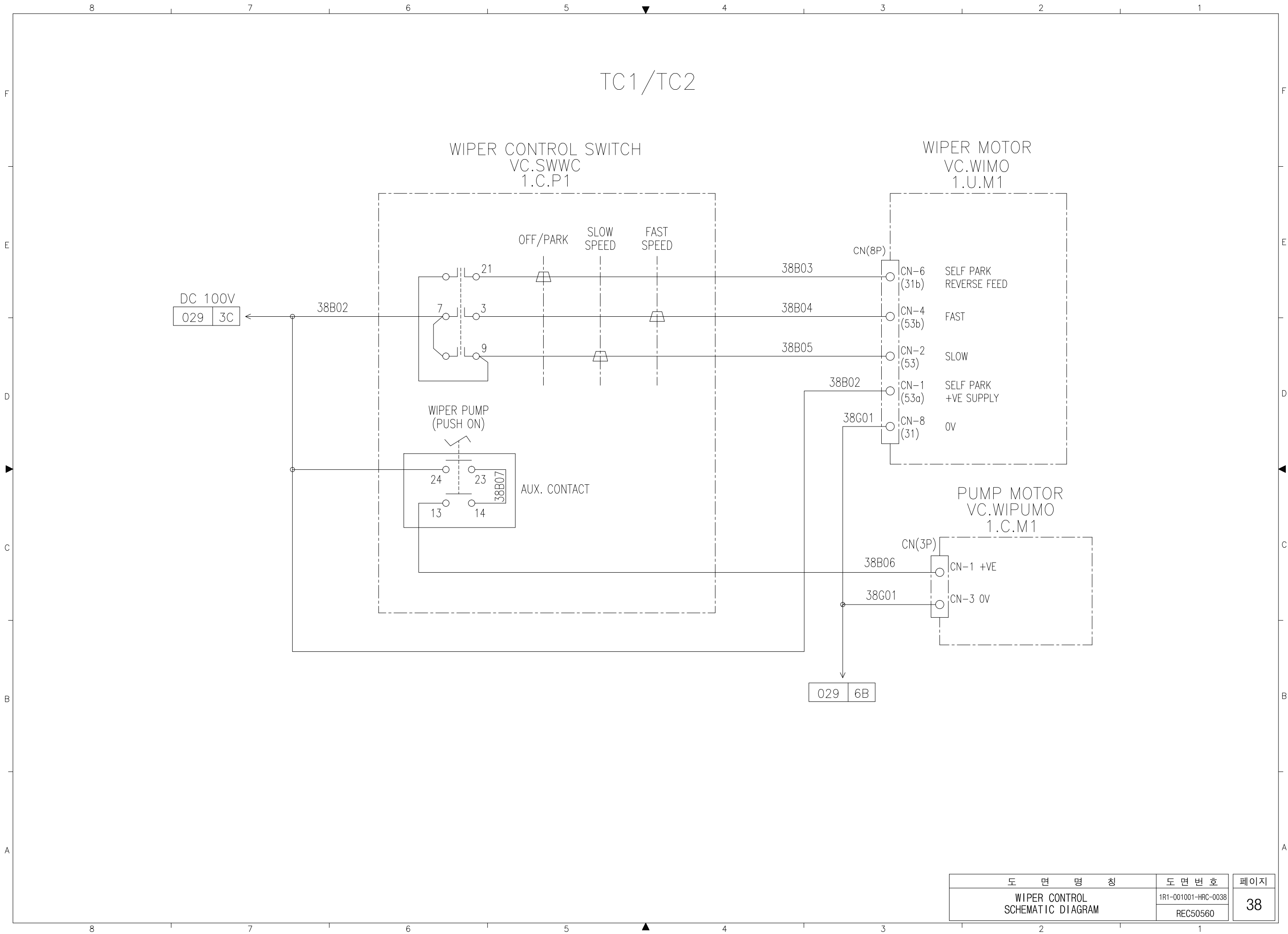
C

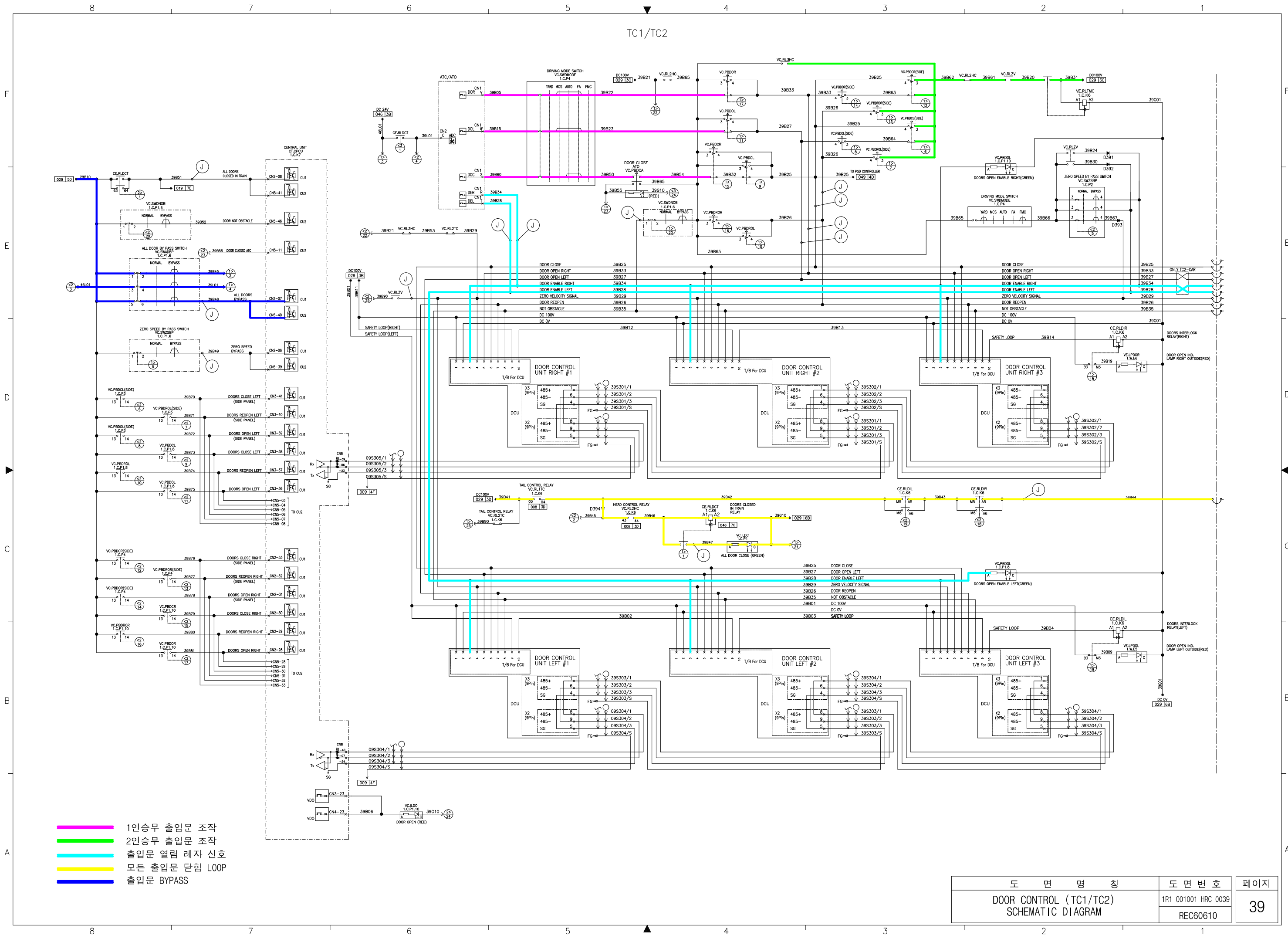
B

A

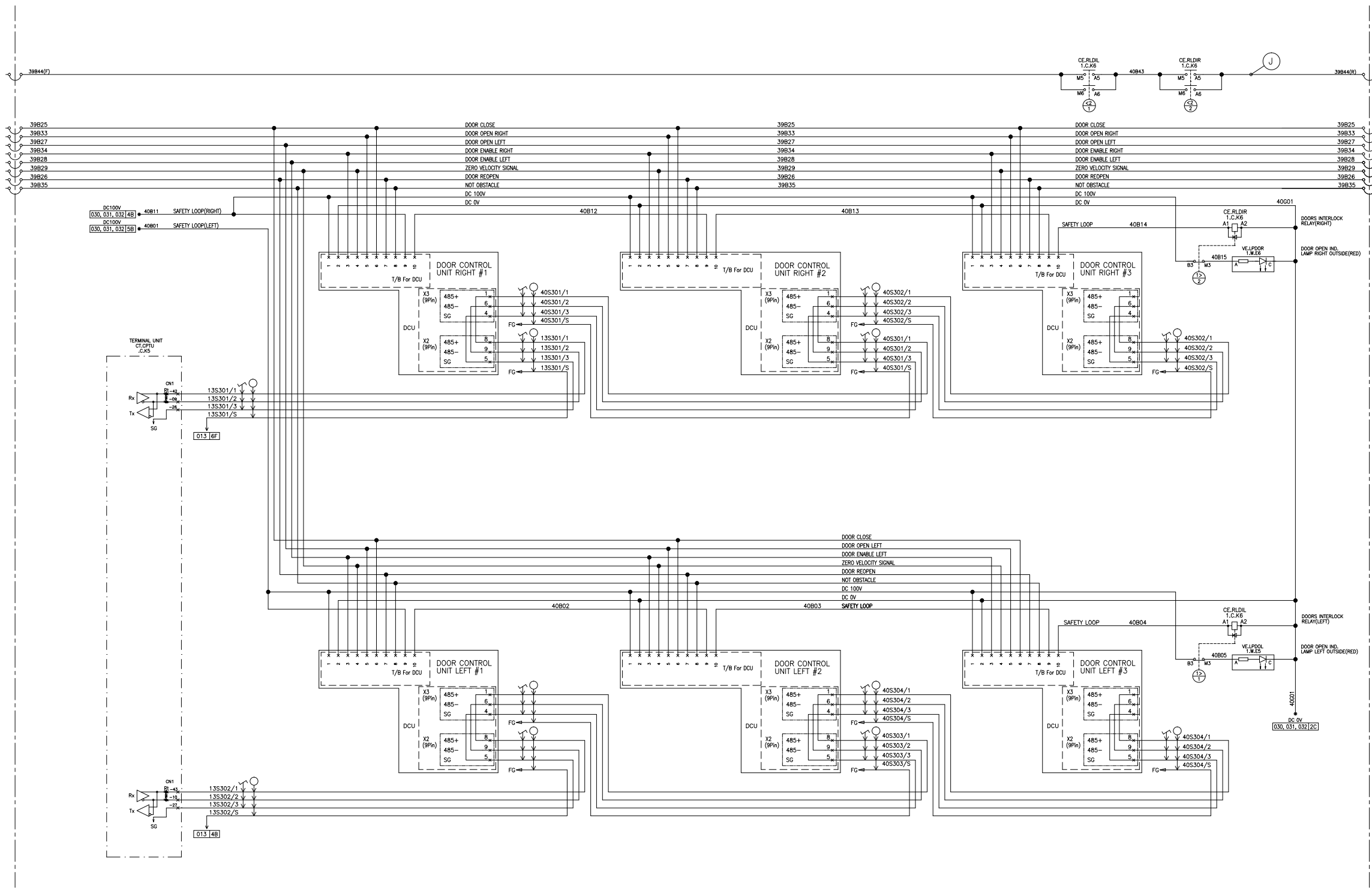


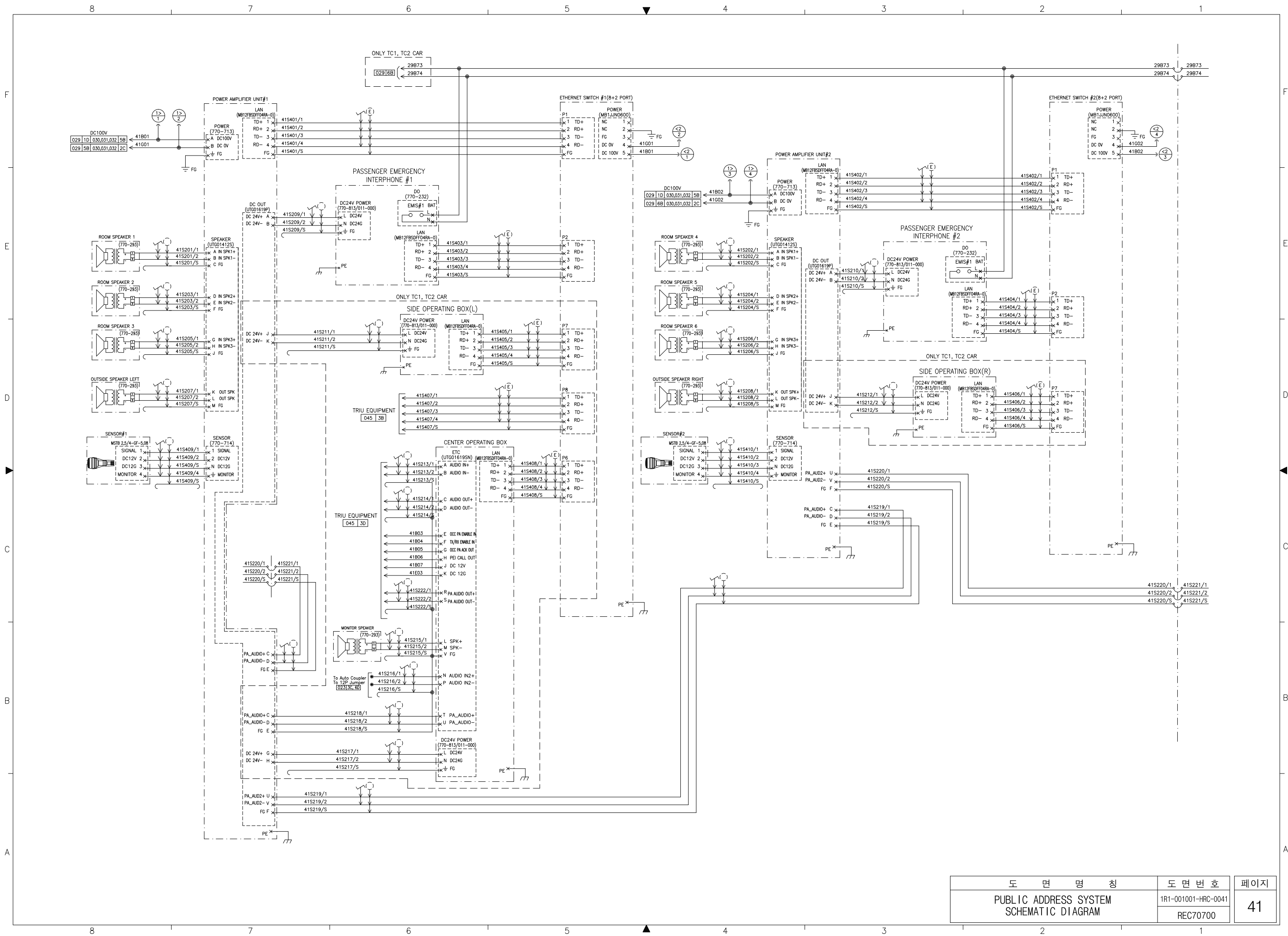
NOTE.
1. () 안의 전선번호는 TC1, TC2 CAR를 제외한 전 사용에 적용

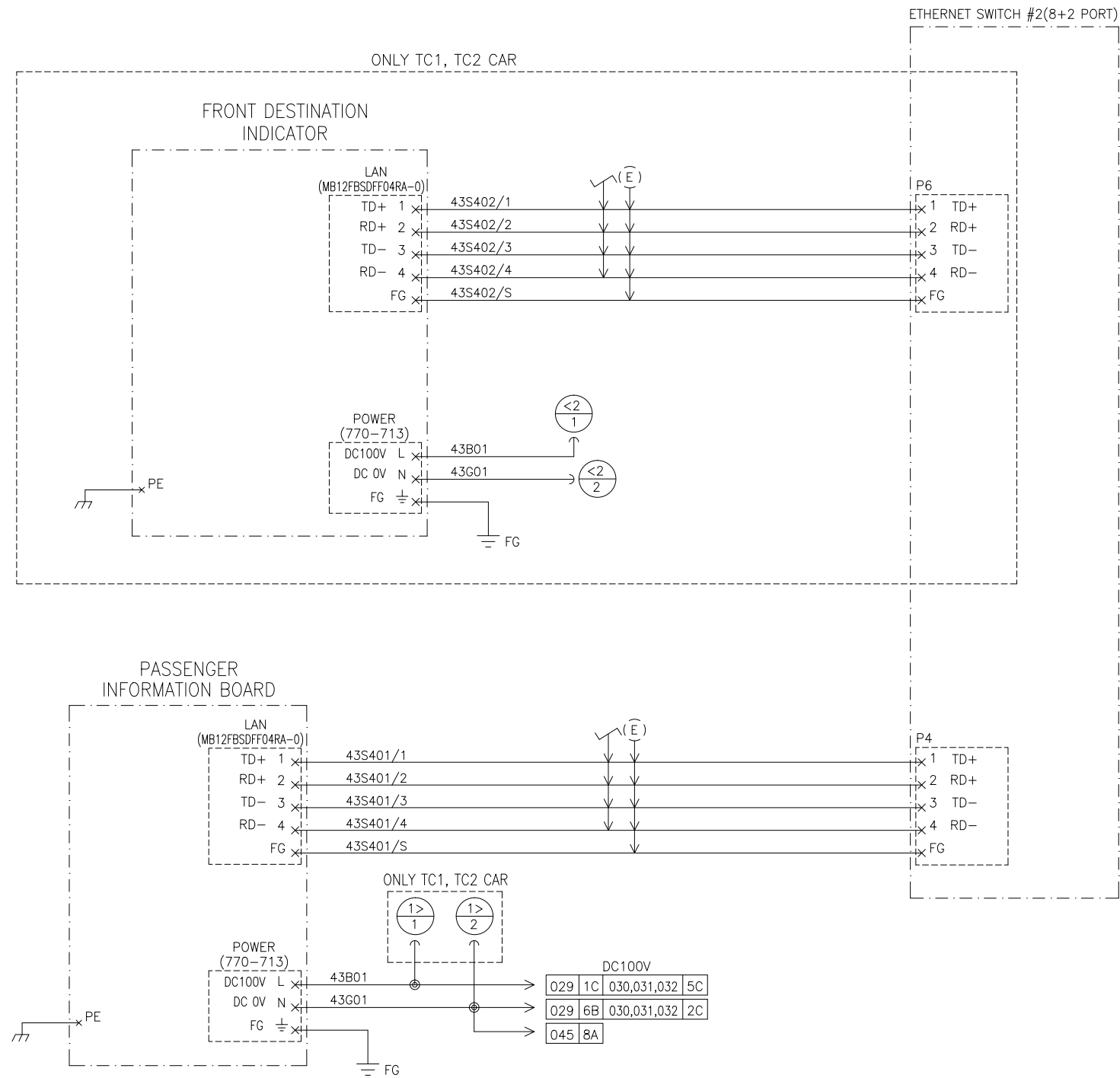


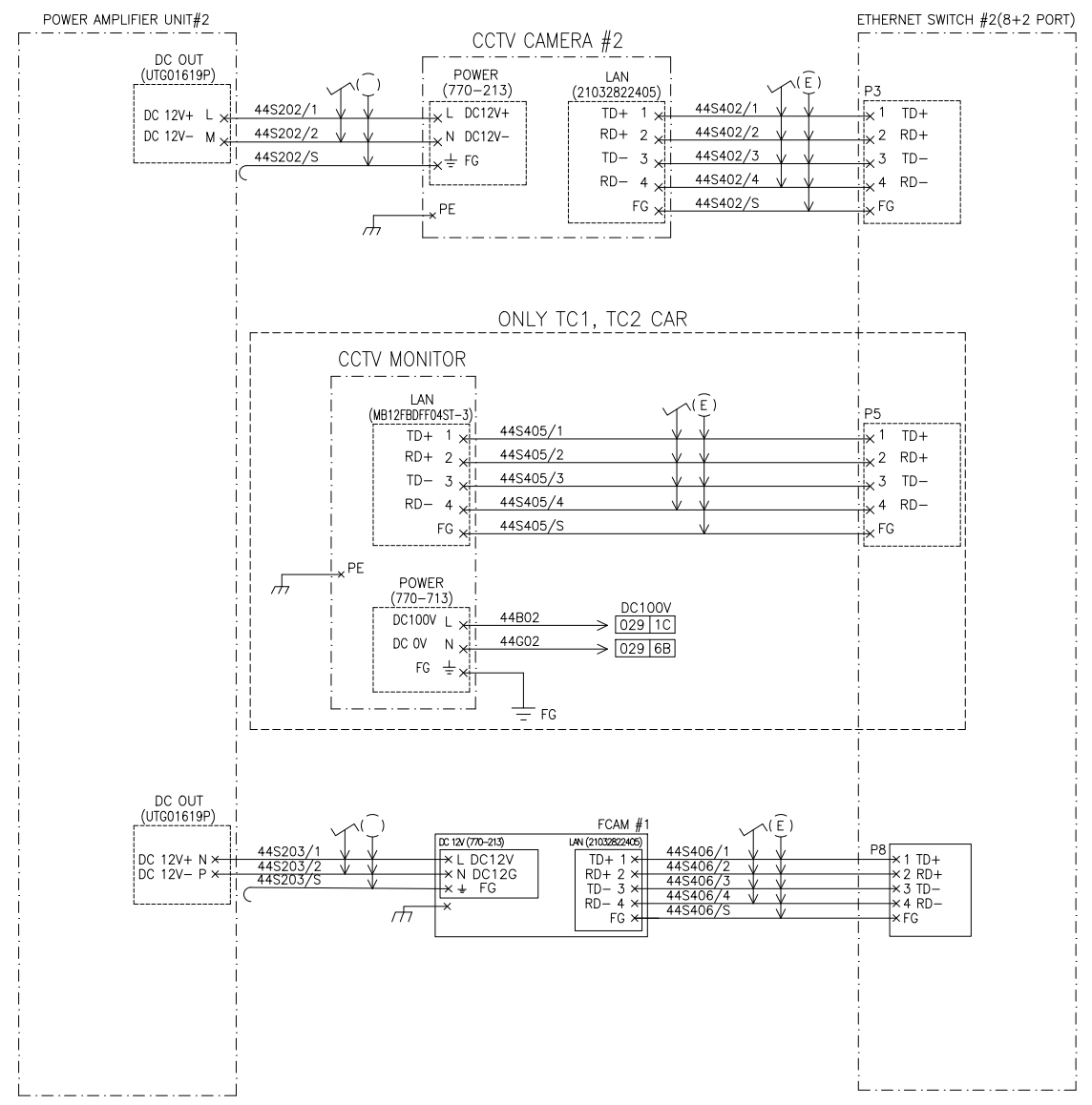
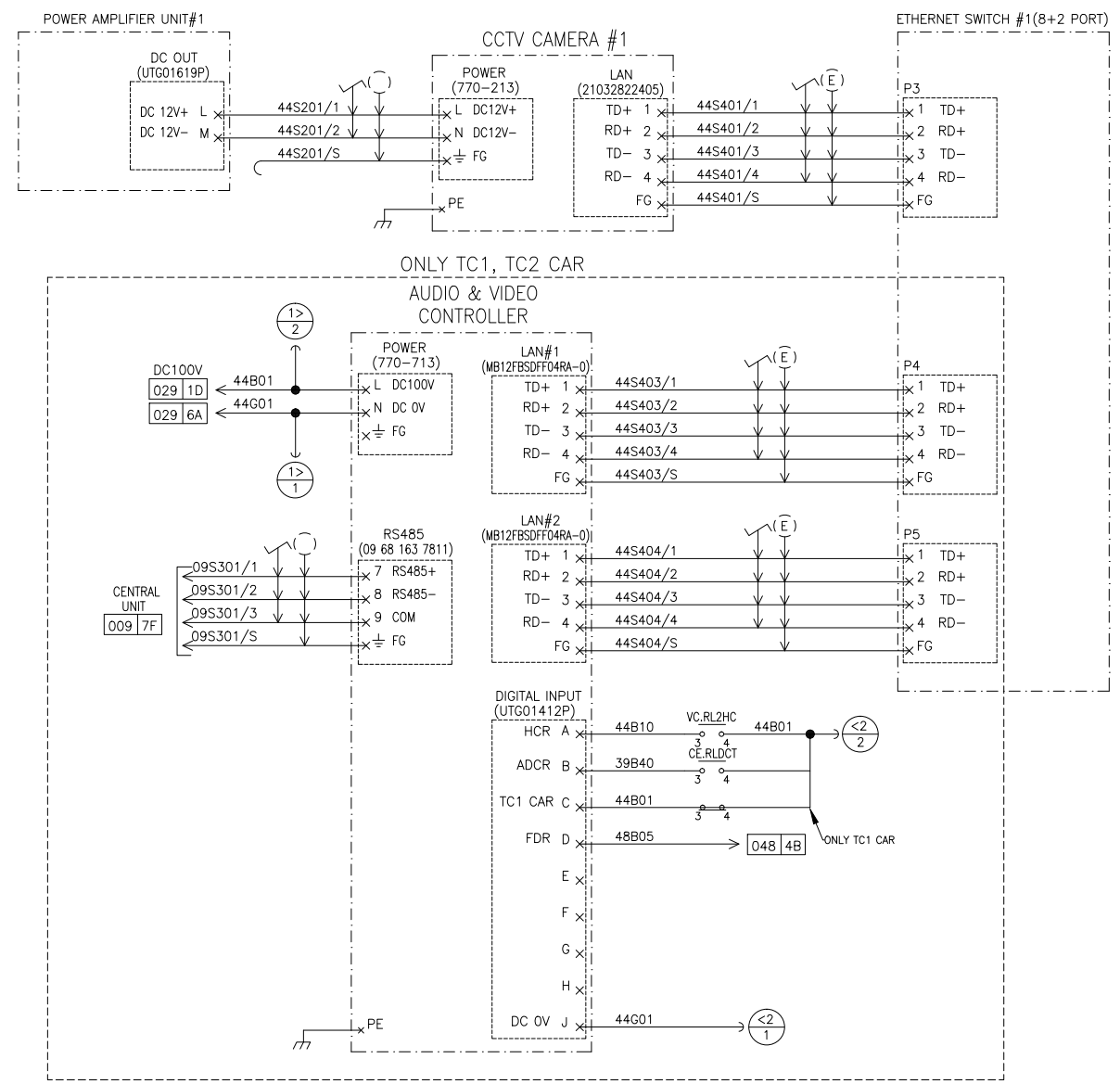


M1/M2/T1/T2

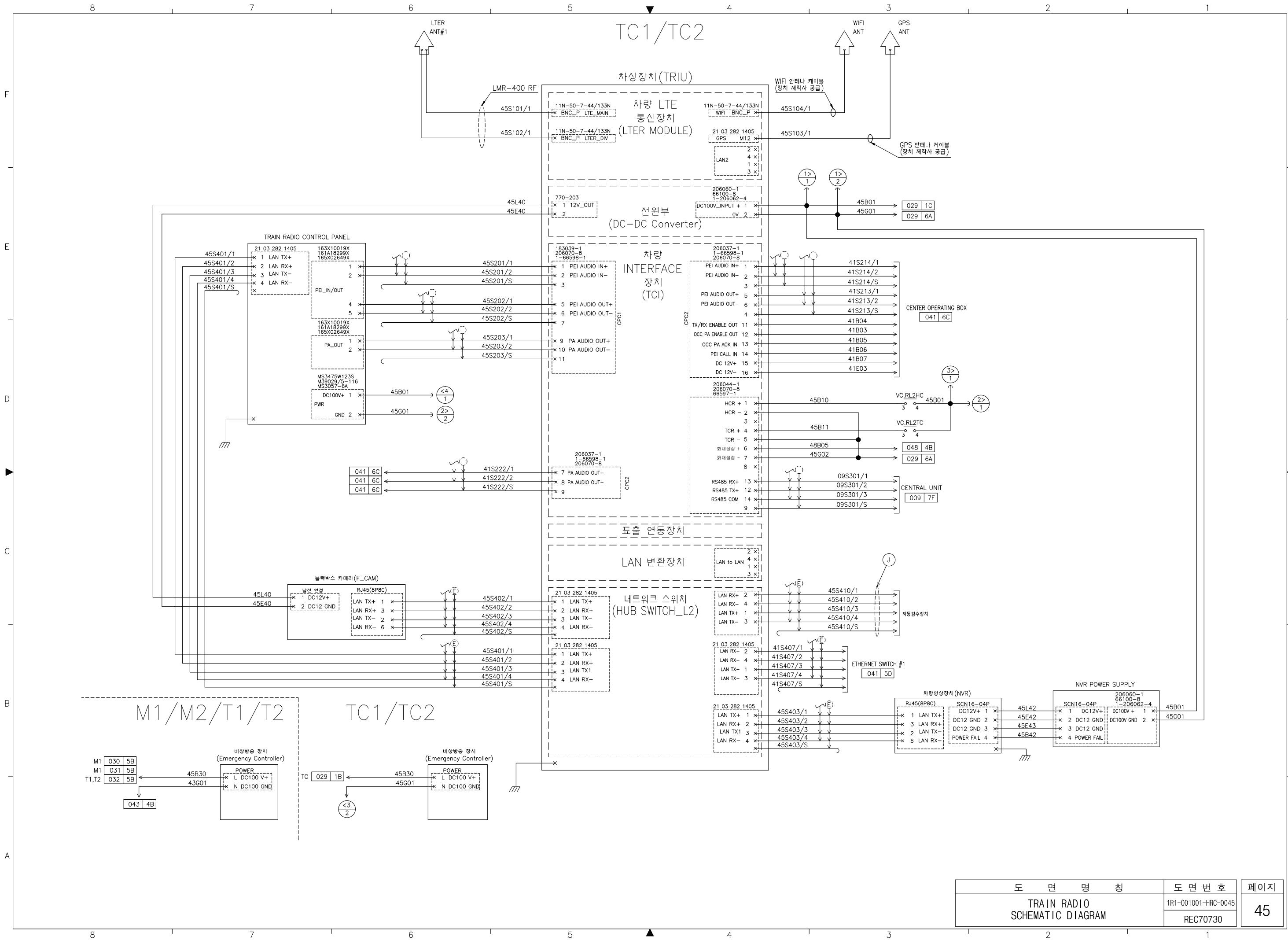






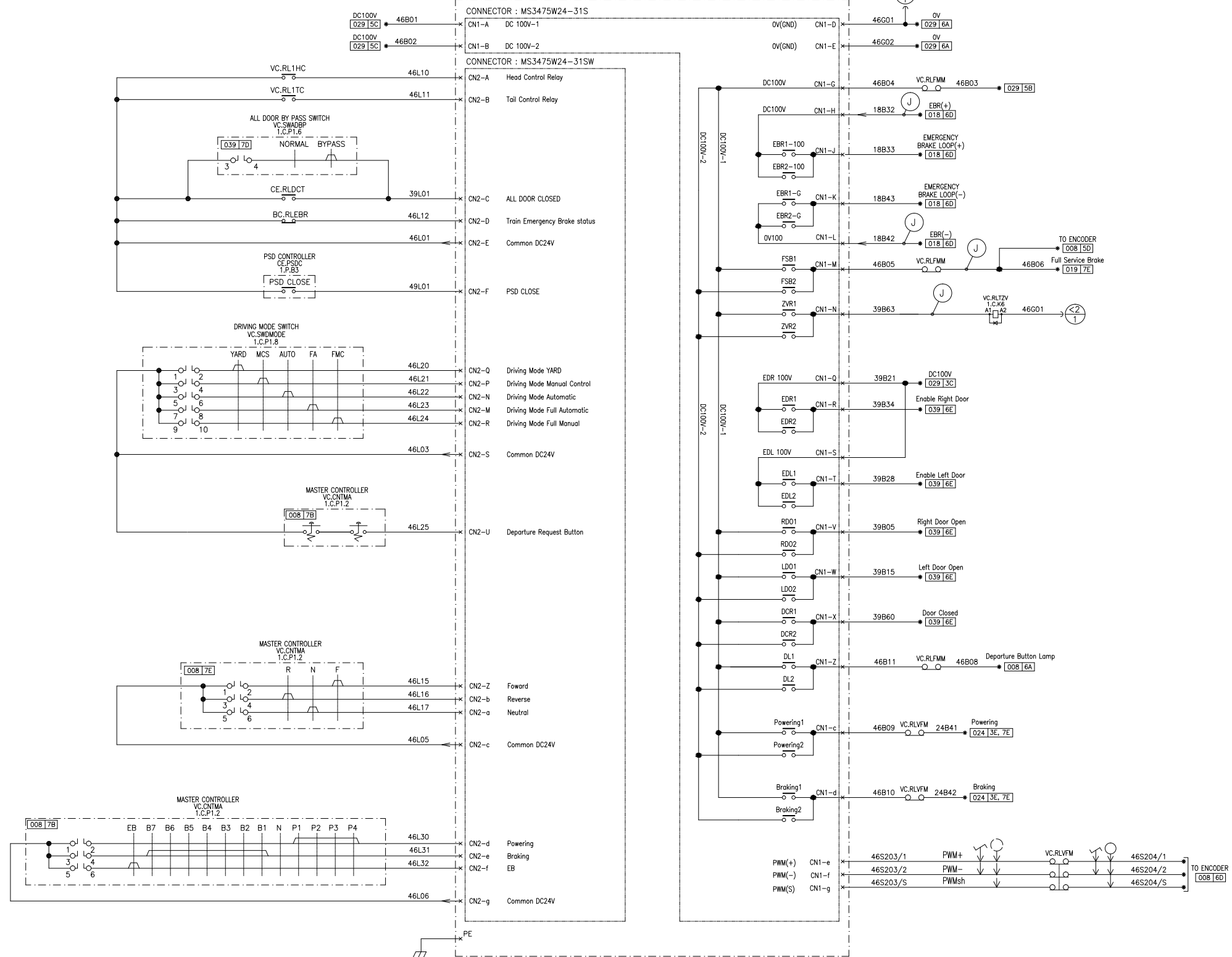


NOTE
 1. Shield Cable은 전원 Switching noise Cable과 분리 배선 할 것.
 2. Data line과 DC100V Power line은 분리 배선 할 것.



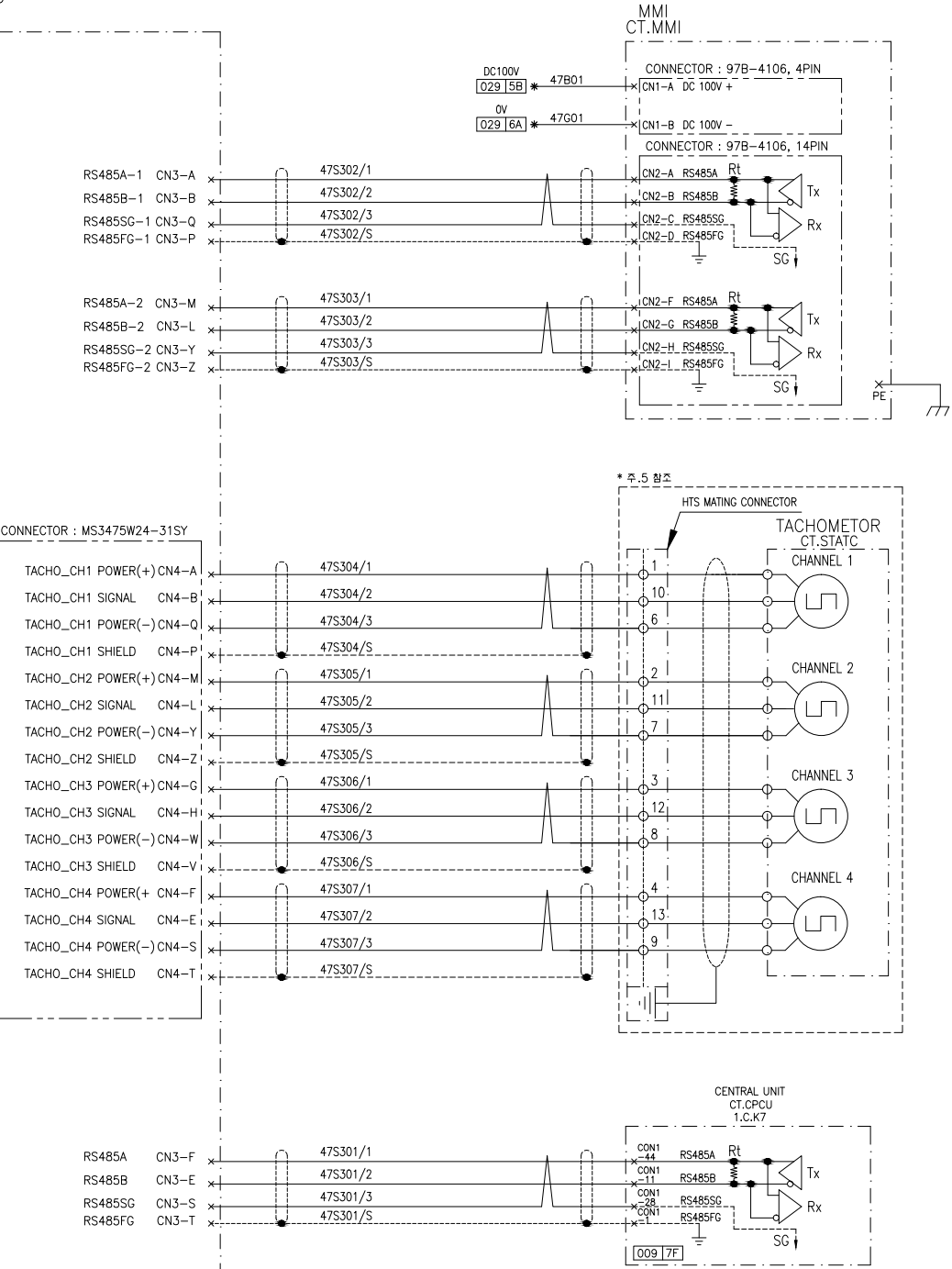
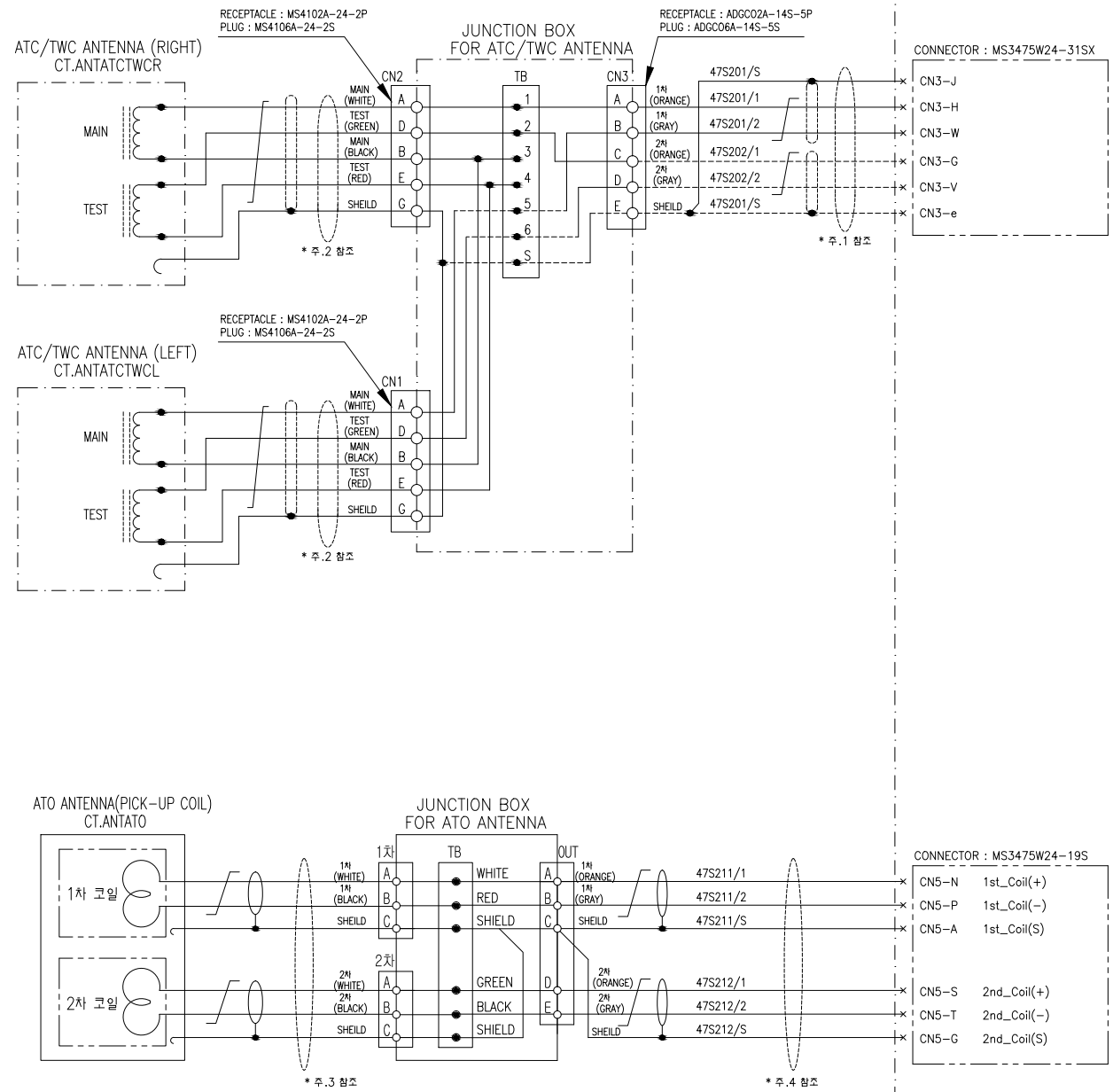
TC1/TC2

ATC/ATO/TWC UNIT
CT.ATCU
1.C.K3



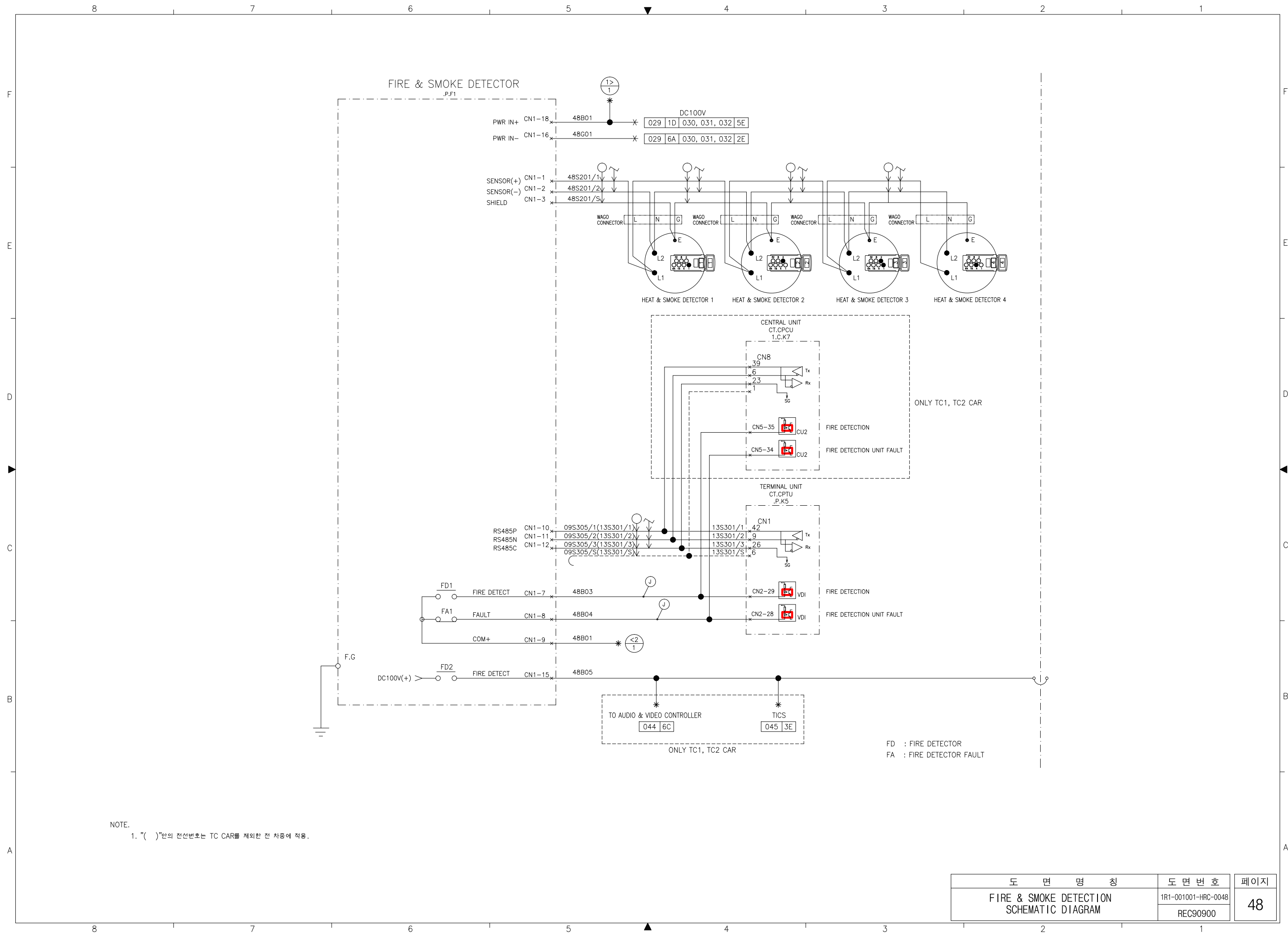
TC1/TC2

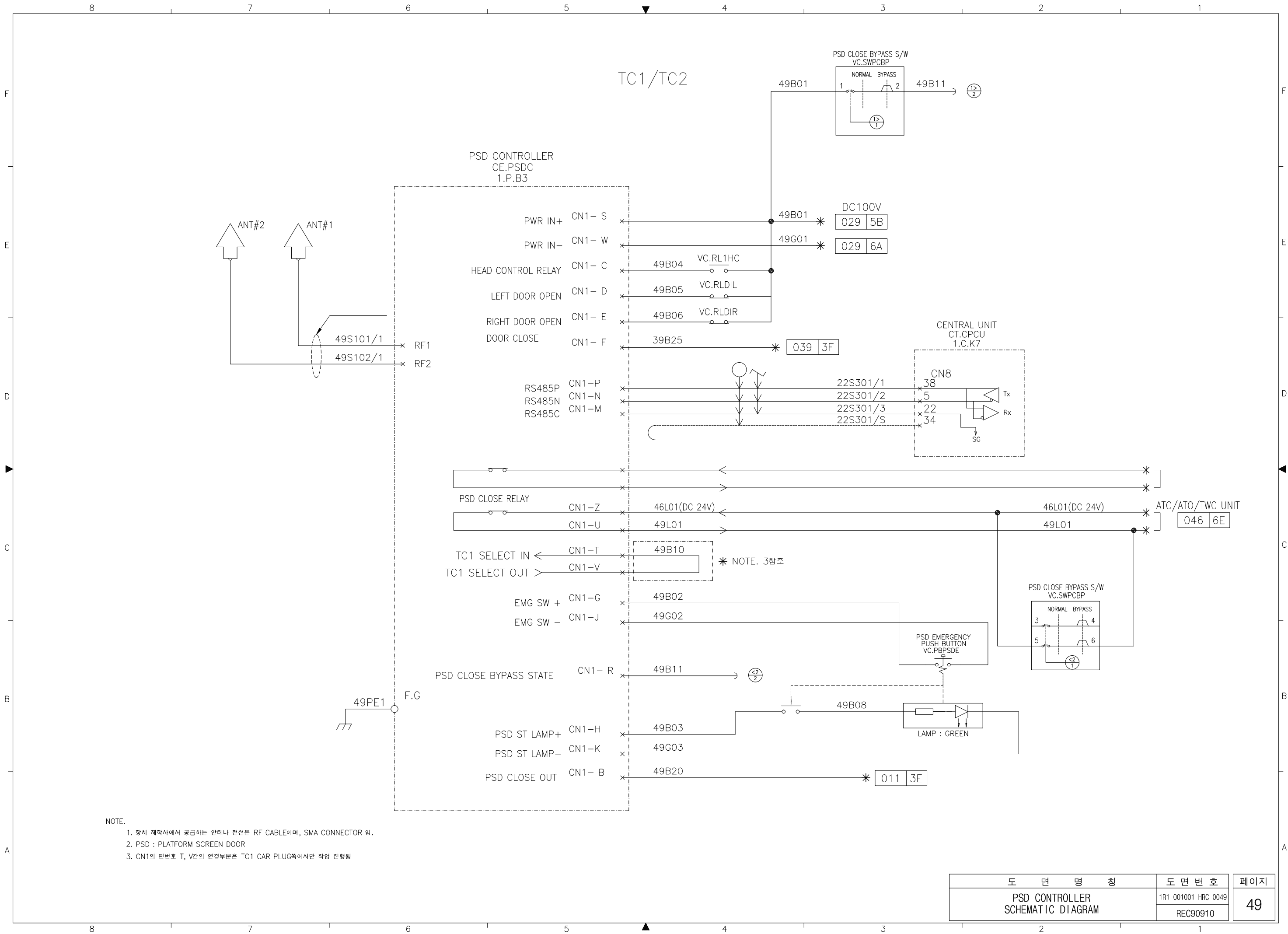
ATC/ATO/TWC UNIT
CT.ATCU
1.C.K3



- NOTE.
1. "주. 1에 해당하는 부분은 전선 보호용 튜브 및 접속 커넥트를 이입터를 제외한 모든 부분을 차상신호장치 제작사에서 공급 함 (차상신호장치 제작사에서 공급하는 케이블 플러그 접속 커넥트 TYPE 은 MS-SK14-16)
 2. "주. 2에 해당하는 부분은 차상신호장치 제작사에서 공급하며, 전선 길이 정보는 코드 자랑 제작시 제공 함 (차상 ATC/TWC 인테나 제작 규격서) 참조 요.
 3. "주. 3에 해당하는 부분은 차상신호장치 제작사에서 전체 조립되어 공급 됨. 차상 ATO 인테나 제작 규격서 참조 요.
 4. "주. 4에 해당하는 부분은 전선 보호용 튜브 및 접속 커넥트를 이입터를 제외한 모든 부분을 차상신호장치 제작사에서 공급 함 (차상신호장치 제작사에서 공급하는 케이블 플러그 접속 커넥트 TYPE 은 MS-SK14-16)
 5. "주. 5에 해당하는 부분은 차상신호장치 제작사에서 전체 조립되어 공급 됨. 리코메타 제작 규격서 참조 요.

도면명칭	도면번호	페이지
ATC/ATO CONTROL(2/2) SCHEMATIC DIAGRAM	1R1-001001-HRC-0047 REC80871	47





TC1

M1,M2,T1,T2

TC2

