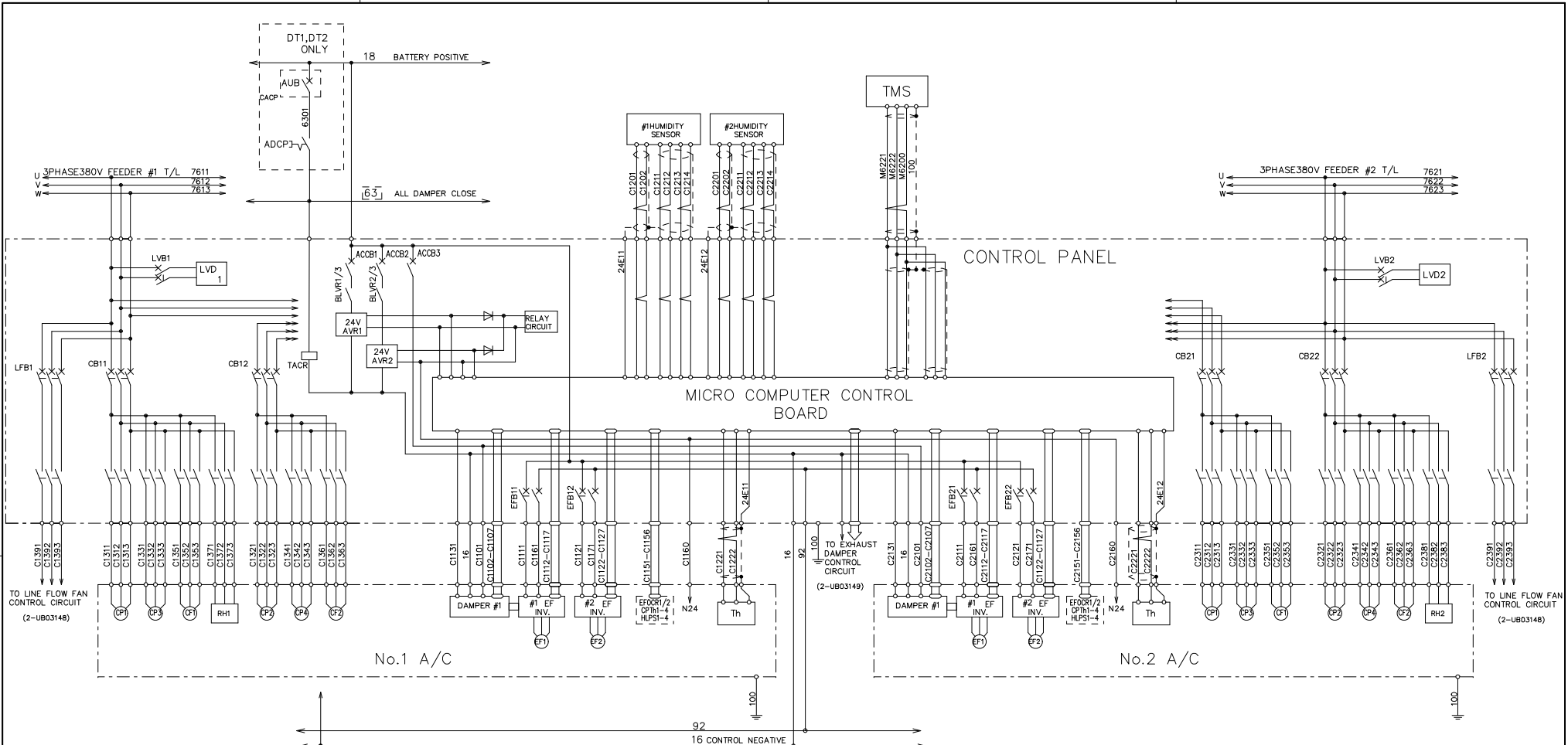
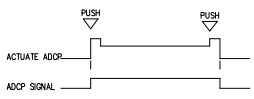


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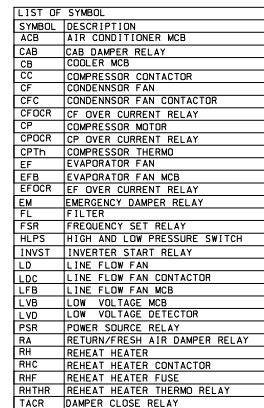
ABBREVIATION  
ADCP : ALL DAMPER CLOSE PUSH BUTTON  
ACCB : AIR CONDITIONER CONTROL CIRCUIT BREAKER

NOTE  
ADCP IS ALTERNATE SWITCH.  
IF ADCP PUSHED,KEEP TO MAKE SIGNAL TO CLOSE DAMPERS UNTIL ADCP PUSHED AGAIN.

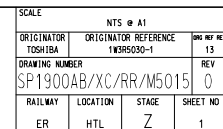


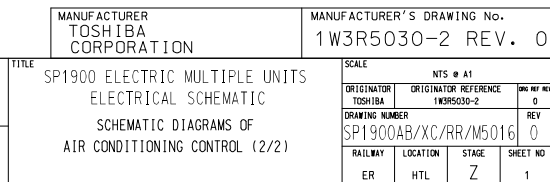
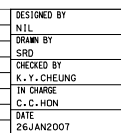
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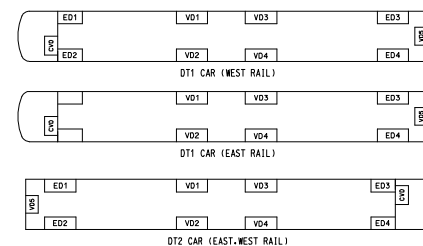
TITLE BLOCK INFORMATION



DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26JAN2007



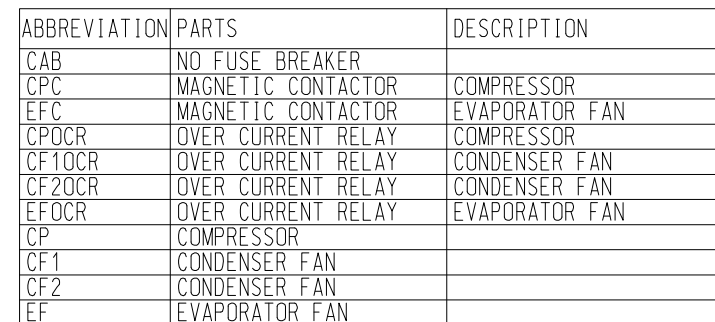




KCRC WR	DT2	A	*	B901
KCRC WR	DT1	A	*	B901
KCRC ER	DT2	A	*	B901
KCRC ER	DT1	A	*	B901
APPLIED CAR	CAR TYPE	GROUP	PCS/CAR	13 ENCL-001

**KCR** 運輸部  
九龍輕鐵 Transport Division

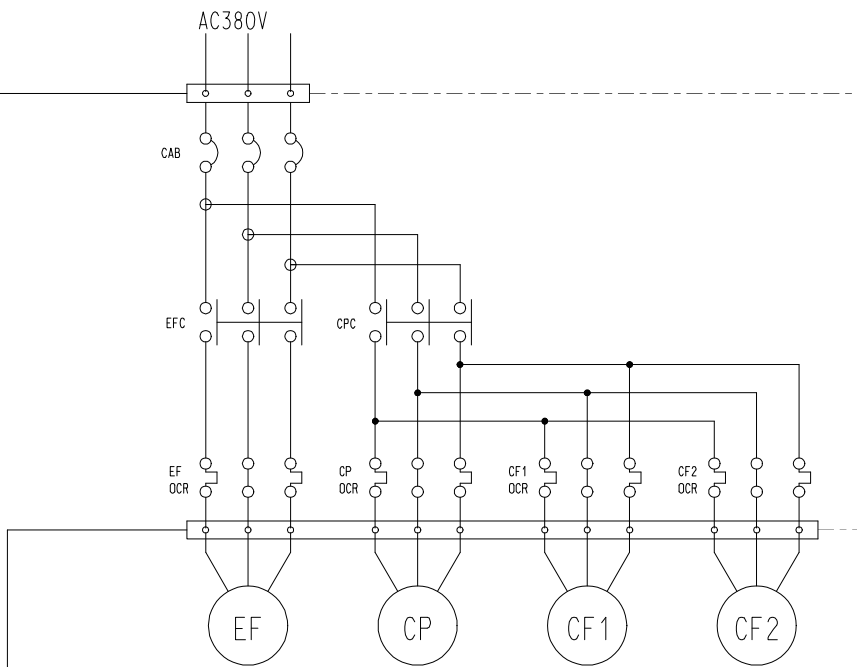
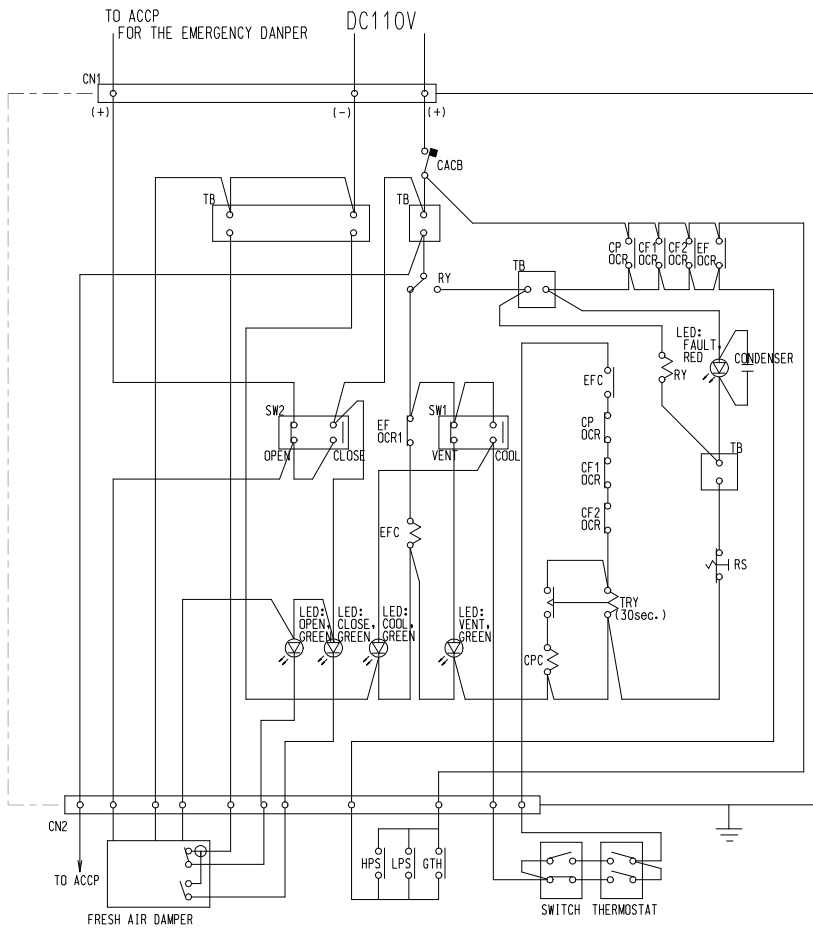
SCALE		NTS @ A1	
ORIGINATOR KS	ORIGINATOR REFERENCE 2-UB03744	ORG REF REV g	
DRAWING NUMBER SP1900AB/XC/RR/M5001		REV 0	
RAILWAY ER	LOCATION HTL	STAGE Z	SHEET NO 1

[illegible]

DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K.Y.CHEUNG
IN CHARGE	C.C.HON
DATE	26JAN2007



MANUFACTURER TOSHIBA CARRIER CORPORATION		MANUFACTURER'S DRAWING NO. RN-4504-94 REV. 2	
TITLE	SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC  SCHEMATIC DIAGRAM OF CAB AIR CONDITIONER POWER CIRCUIT	SCALE	NTS @ A1
		ORIGINATOR TOSHIBA	ORIGINAL SOURCE RN-4504-94
		DRAWING NUMBER SP1900AB/XX/RN/M5013	REV 0
		RAILWAY	LOCATION
		ER	HTL
			STAGE
			SHEET NO
			1



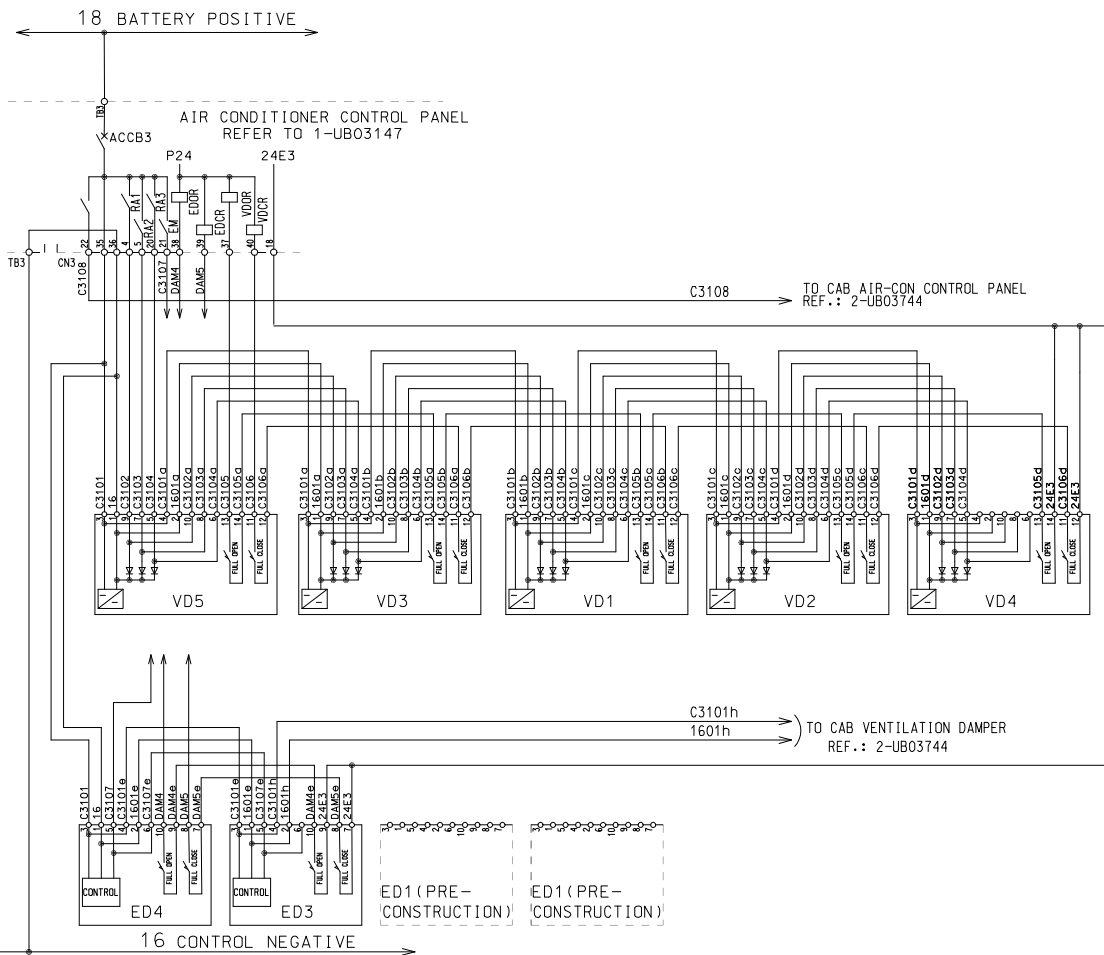
ABBREVIATION	PARTS	DESCRIPTION	ABBREVIATION	PARTS	DESCRIPTION
CACB	NO FUSE BREAKER		RS	PUSH SWITCH	
CPC	MAGNETIC CONTACTOR	COMPRESSOR	TB	TERMINAL BLOCK	
EFC	MAGNETIC CONTACTOR	EVAPORATOR FAN	CN1	CONTACT	POWER INPUT
CPOCR	OVER CURRENT RELAY	COMPRESSOR	CN2	CONTACT	OUTPUT
CF1OCR	OVER CURRENT RELAY	CONDENSER FAN	HPS	HIGH PRESSURE SWITCH	
CF2OCR	OVER CURRENT RELAY	CONDENSER FAN	LPS	LOW PRESSURE SWITCH	
EFOCR	OVER CURRENT RELAY	EVAPORATOR FAN	GTH	THERMOSTAT	COMPRESSOR
RY	RELAY		CAB	NO FUSE BREAKER	
TRY	TIMER		CP	COMPRESSOR	
LED	LIGHT EMITTING DIODE		CF1	CONDENSER FAN	
SW1	SWITCH		CF2	CONDENSER FAN	
SW2	SWITCH		EF	EVAPORATOR FAN	

REV	DATE	BY	SUB	APP	DESCRIPTION
1	26/JAN/07	SRO	K.Y.	G.C.	FIRST ISSUE

DESIGNED BY	NIL
DRAWN BY	SRO
CHECKED BY	K.Y. CHEUNG
IN CHARGE	G.C. HON
DATE	26/JAN/2007

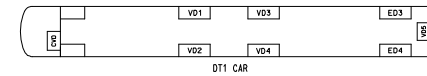


MANUFACTURER TOSHIBA CARRIER CORPORATION		MANUFACTURER'S DRAWING No. RN-4504-95 REV. 3	
TITLE SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC SCHEMATIC DIAGRAM OF CAB AIR CONDITIONER CONTROL CIRCUIT		SCALE NTS @ A1	
ORIGINATOR TOSHIBA	ORIGINATOR REFERENCE RN-4504-95	REV 0	SHEET NO 1
DRAWING NUMBER SP1900AB/XC/RR/M5014	RAILWAY ER	LOCATION HTL	STAGE Z



# ABBREVIATION

ED3.4	EMERGENCY EXHAUST DAMPER
EDCR	ALL ED FULL CLOSED RELAY
EDOR	ALL ED FULL OPENED RELAY
EM	EMERGENCY EXHAUST DAMPER CONTROL
RA	RETURN AIR DAMPER CONTROL
VD1-5	VENTILATION DAMPER
VDCR	ALL VD FULL CLOSED RELAY
VDOR	ALL VD FULL OPENED RELAY



COMMAND SIGNAL			VENTILATION DAMPER (VD1-5) OPERATED STATUS	
RA1	RA2	RA3	STEP-0	FULL CLOSE
H	H	H	STEP-1	
H	H	L	STEP-2	
H	L	H	STEP-3	
H	L	L	STEP-4	
L	H	H	STEP-5	FULL OPEN

COMMAND SIGNAL (C3107)		EMERGENCY DAMPER (ED1-4) OPERATED STATUS	
EM		FULL CLOSE	
H		FULL OPEN	
L			

REV	DATE	BY	SUB	APP	DESCRIPTION
1	26/JAN/07	SRO	K.Y.	C.C.	FIRST ISSUE
2	26/JAN/07	SRO	K.Y.	C.C.	
3	26/JAN/07	SRO	K.Y.	C.C.	
4	26/JAN/07	SRO	K.Y.	C.C.	
5	26/JAN/07	SRO	K.Y.	C.C.	
6	26/JAN/07	SRO	K.Y.	C.C.	
7	26/JAN/07	SRO	K.Y.	C.C.	
8	26/JAN/07	SRO	K.Y.	C.C.	
9	26/JAN/07	SRO	K.Y.	C.C.	
10	26/JAN/07	SRO	K.Y.	C.C.	

DESIGNED BY	NIL
DRAWN BY	SRO
CHECKED BY	K.Y. CHEUNG
IN CHARGE	C.C. HON
DATE	26/JAN/07

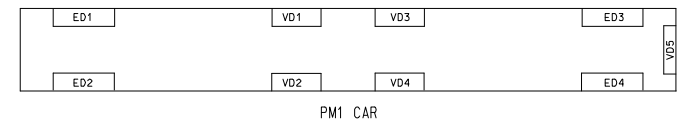


TITLE  
SP1900 ELECTRIC MULTIPLE UNITS  
ELECTRICAL SCHEMATIC  
EXHAUST DAMPER CONTROL CIRCUIT (1/7)

KCRC	ER	DT1	A	*	B901
APPLIED CAR	CAR TYPE	GROUP	POSITION	ISSUE	
SCALE	NTS @ A1				
ORIGINATOR	KS	ORIGINATOR REFERENCE	2-UB03149	REV	f
DRAWING NUMBER	SP1900AB/XC/RR/M5003				
RAILWAY	LOCATION	STAGE	SHEET NO		
ER	HTL	Z	1		



ED1-4	EMERGENCY EXHAUST DAMPER	
EDCR	ALL ED FULL CLOSED RELAY	
EDOR	ALL ED FULL OPENED RELAY	
EM	EMERGENCY EXHAUST DAMPER	CONTROL
RA	RETURN AIR DAMPER	CONTROL
VD1-5	VENTILATION DAMPER	
VDOR	ALL VD FULL CLOSED RELAY	
VDOR	ALL VD FULL OPENED RELAY	



COMMAND SIGNAL			VENTILATIONDAMPER (VD1-5) OPERATED STATUS	
RA1	RA2	RA3		
H	H	H	STEP-0	FULL CLOSE
H	H	L	STEP-1	
H	L	H	STEP-2	
H	L	L	STEP-3	
L	H	H	STEP-4	
L	H	L	STEP-5	FULL OPEN

COMMAND SIGNAL (C3107)	EMERGENCY DAMPER (ED1-4) OPERATED STATUS
EM	
H	FULL CLOSE
L	FULL OPEN

e	'01.06.22	CHANGED ABBREVIATION
---	-----------	----------------------

DESIGNED BY	NIL
DRAWN BY	SRO
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26JAN2007



TITLE	SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC EXHAUST DAMPER CONTROL CIRCUIT (2/7)
-------	--

KCRC	WR	PMI	A	*	B9I
KCRC	ER	PMI	A	*	B9I
APPLIED CAR	CAR TYPE	GROUP	POS/CO	15 INC. GROUP No.	

SCALE		
NTS @ A1		
ORIGINATOR	ORIGINATOR REFERENCE	DOC REF REV
KS	2-UB03149-2	0
DRAWING NUMBER		REV
SP1900AB/XC/RR/M5004		0
RAILWAY	LOCATION	SHEET NO
ER	HTL	1





The diagram shows a large rectangle representing a 2D grid. Inside the rectangle, there are four smaller rectangles labeled ED1, ED2, ED3, and ED4. ED1 and ED2 are on the left side, while ED3 and ED4 are on the right side. Outside the rectangle, there are two vertical rectangles labeled V01 and V02. V01 is on the left side, and V02 is on the right side. The rectangles are arranged in a way that suggests a spatial relationship between the edge detectors and the vectors.

COMMAND SIGNAL			VENTILATIONDAMPER (VD1-5) OPERATED STATUS	
RA1	RA2	RA3		
H	H	H	STEP-0	FULL CLOSE
H	H	L	STEP-1	
H	L	H	STEP-2	
H	L	L	STEP-3	
L	H	H	STEP-4	
L	H	L	STEP-5	FULL OPEN

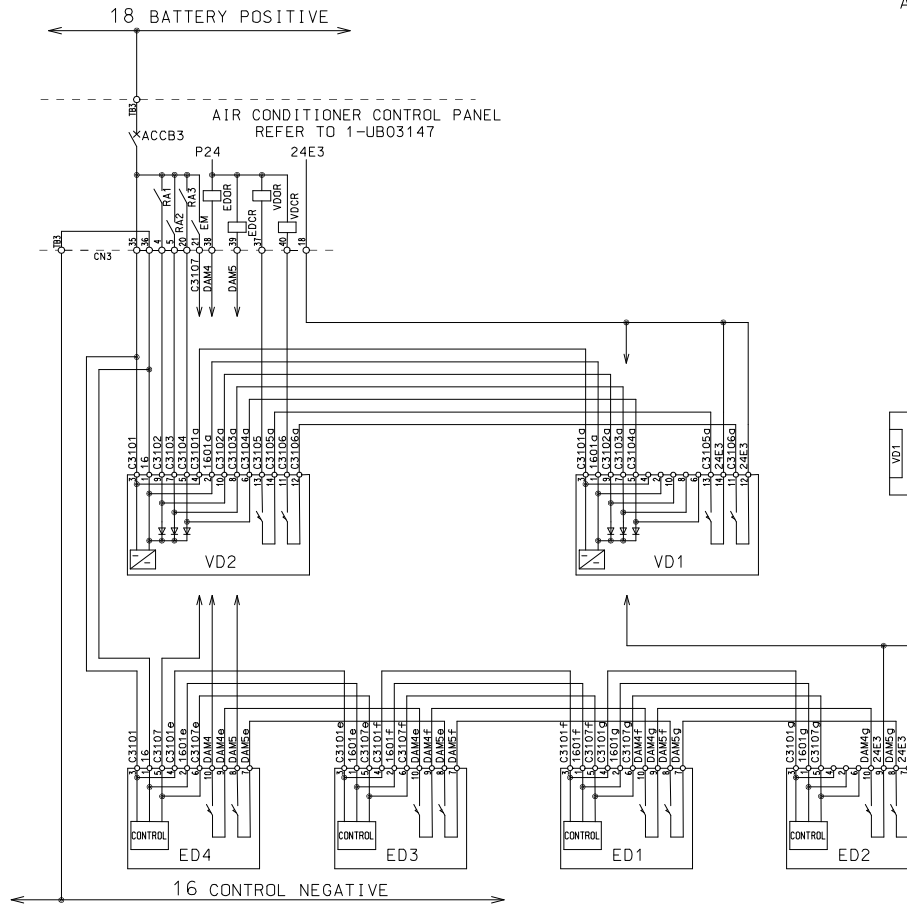
COMMAND SIGNAL (C3107)	EMERGENCY DAMPER (ED1-4) OPERATED STATUS
EM	
H	
L	

KCRC WR	MHW	A	*	B901
KCRC ER	TWH	A	*	B901
KCRC ER	M	A	*	B901
APPLIED CAR	CAR TYPE	GROUP	PCS/CAR	IS INC- ORR IN

DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26JAN2007



SCALE		NTS @ A1	
ORIGINATOR KS	ORIGINATOR REFERENCE 2-UB03149-3	ORIG REF REV 0	
DRAWING NUMBER SP1900AB/XC/RR/M5005			REV 0
RAILWAY ER	LOCATION HTL	STAGE Z	SHEET NO 1



# ABBREVIATION

ED1-4	EMERGENCY EXHAUST DAMPER
EDCR	ALL ED FULL CLOSED RELAY
EDOR	ALL ED FULL OPENED RELAY
EM	EMERGENCY EXHAUST DAMPER CONTROL
RA	RETURN AIR DAMPER CONTROL
VD1,2	VENTILATION DAMPER
VDCR	ALL VD FULL CLOSED RELAY
VDOOR	ALL VD FULL OPENED RELAY



TCH.TFH.MWH.MW2 CAR

COMMAND SIGNAL			VENTILATION DAMPER (VD1-5) OPERATED STATUS	
RA1	RA2	RA3		
H	H	H	STEP-0	FULL CLOSE
H	H	L	STEP-1	
H	L	H	STEP-2	
H	L	L	STEP-3	
L	H	H	STEP-4	
L	H	L	STEP-5	FULL OPEN

COMMAND SIGNAL (C3107)		EMERGENCY DAMPER (ED1-4) OPERATED STATUS	
	EM		
H		FULL CLOSE	
L		FULL OPEN	

KCRC	WR	TCH	A	*	B901
KCRC	WR	MW2	A	*	B901
KCRC	ER	TH2	A	*	B901
KCRC	ER	MW2	A	*	B901
KCRC	ER	MWH	A	*	B901
KCRC	ER	TCH	A	*	B901
KCRC	ER	TFH	A	*	B901
APPLIED CAR CAR TYPE GROUP POS CAR IS INC. 100%					

REV	DATE	BY	SUB	APP	DESCRIPTION
1	26/JAN/07	SRD	K.Y.C.	G.C.C.	FIRST ISSUE
2	26/JAN/07	SRD	K.Y.C.	G.C.C.	
3	26/JAN/07	SRD	K.Y.C.	G.C.C.	
4	26/JAN/07	SRD	K.Y.C.	G.C.C.	
5	26/JAN/07	SRD	K.Y.C.	G.C.C.	
6	26/JAN/07	SRD	K.Y.C.	G.C.C.	
7	26/JAN/07	SRD	K.Y.C.	G.C.C.	
8	26/JAN/07	SRD	K.Y.C.	G.C.C.	
9	26/JAN/07	SRD	K.Y.C.	G.C.C.	
10	26/JAN/07	SRD	K.Y.C.	G.C.C.	
11	26/JAN/07	SRD	K.Y.C.	G.C.C.	
12	26/JAN/07	SRD	K.Y.C.	G.C.C.	
13	26/JAN/07	SRD	K.Y.C.	G.C.C.	
14	26/JAN/07	SRD	K.Y.C.	G.C.C.	
15	26/JAN/07	SRD	K.Y.C.	G.C.C.	
16	26/JAN/07	SRD	K.Y.C.	G.C.C.	
17	26/JAN/07	SRD	K.Y.C.	G.C.C.	
18	26/JAN/07	SRD	K.Y.C.	G.C.C.	
19	26/JAN/07	SRD	K.Y.C.	G.C.C.	
20	26/JAN/07	SRD	K.Y.C.	G.C.C.	

DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K.Y.CHEUNG
IN CHARGE	G.C.C.HON
DATE	26/JAN/07

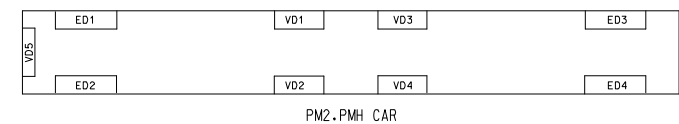


TITLE  
SP1900 ELECTRIC MULTIPLE UNITS  
ELECTRICAL SCHEMATIC  
EXHAUST DAMPER CONTROL CIRCUIT (4/7)

SCALE				NTS @ A1	
ORIGINATOR	ORIGINATOR REFERENCE	REV	REV	REV	REV
KS	2-UB03143-4	0			
DRAWING NUMBER SP1900AB/XC/RR/M5006					
RAILWAY	LOCATION	STAGE	SHEET NO		
ER	HTL	Z	1		



ED1-4	EMERGENCY EXHAUST DAMPER	
EDCR	ALL ED FULL CLOSED RELAY	
EDOR	ALL ED FULL OPENED RELAY	
EM	EMERGENCY EXHAUST DAMPER	CONTROL
RA	RETURN AIR DAMPER	CONTROL
VD1-5	VENTILATION DAMPER	
VDOR	ALL VD FULL CLOSED RELAY	
VDOR	ALL VD FULL OPENED RELAY	



COMMAND SIGNAL			VENTILATIONDAMP (VD1-5) OPERATED STATUS	
RA1	RA2	RA3		
H	H	H	STEP-0	FULL CLOSE
H	H	L	STEP-1	
H	L	H	STEP-2	
H	L	L	STEP-3	
L	H	H	STEP-4	
L	H	L	STEP-5	FULL OPEN

COMMAND SIGNAL (C3107)	EMERGENCY DAMPER (ED1-4)
EM	OPERATED STATUS
H	FULL CLOSE
L	FULL OPEN

KCRC	WR	PM2	A	*	B901
KCRC	ER	PMH	A	*	B901
KCRC	ER	PM2	A	*	B901
APPLIED CAR	CAR TYPE	GROUP	PCS/CAR	KS	INF-2010

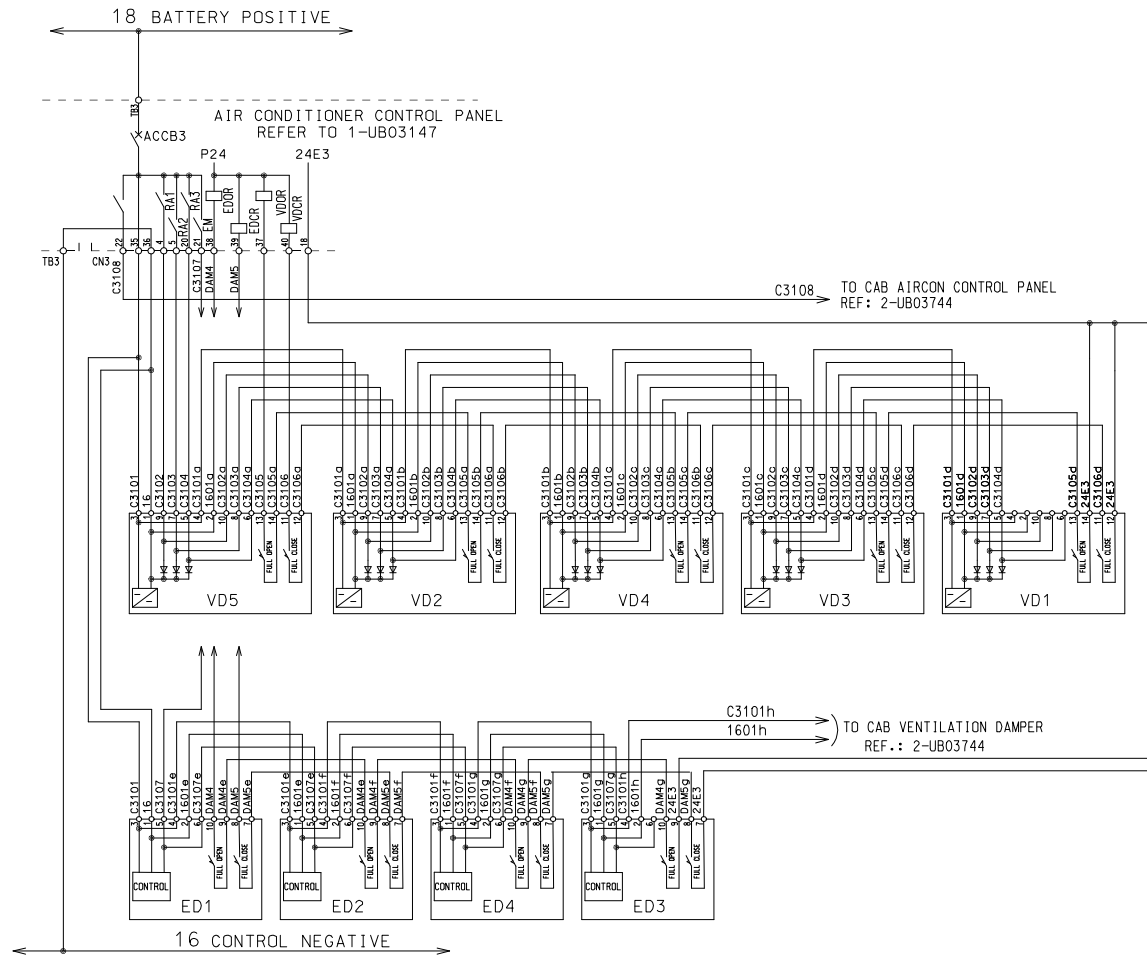
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DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K.Y.CHEUNG
IN CHARGE	C.C.HON
DATE	26JAN2007



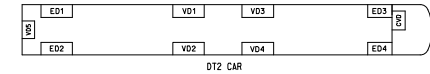
TITLE	SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC EXHAUST DAMPER CONTROL CIRCUIT (5/7)
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SCALE		NTS @ A1	
ORIGINATOR KS	ORIGINATOR REFERENCE 2-UB03149-5	DNG REV REF 0	
DRAWING NUMBER SP1900AB/XC/RR/M5007			REV 0
RAILWAY ER	LOCATION HTL	STAGE Z	SHEET NO 1



# ABBREVIATION

ED1-4	EMERGENCY EXHAUST DAMPER
EDCR	ALL ED FULL CLOSED RELAY
EDOR	ALL ED FULL OPENED RELAY
EM	EMERGENCY EXHAUST DAMPER CONTROL
RA	RETURN AIR DAMPER CONTROL
VD1-5	VENTILATION DAMPER
VDCR	ALL VD FULL CLOSED RELAY
VDOOR	ALL VD FULL OPENED RELAY



COMMAND SIGNAL			VENTILATION DAMPER (VD1-5) OPERATED STATUS	
RA1	RA2	RA3		
H	H	H	STEP-0	FULL CLOSE
H	H	L	STEP-1	
H	L	H	STEP-2	
H	L	L	STEP-3	
L	H	H	STEP-4	
L	H	L	STEP-5	FULL OPEN

COMMAND SIGNAL (C3107)		EMERGENCY DAMPER (ED1-4) OPERATED STATUS
EM		
H		FULL CLOSE
L		FULL OPEN

REV	DATE	BY	SUB	APP	DESCRIPTION
1	26/JAN/07	SRO	K.Y.	G.C.C.	FIRST ISSUE
2	26/JAN/07	SRO	K.Y.	G.C.C.	
3	26/JAN/07	SRO	K.Y.	G.C.C.	
4	26/JAN/07	SRO	K.Y.	G.C.C.	
5	26/JAN/07	SRO	K.Y.	G.C.C.	
6	26/JAN/07	SRO	K.Y.	G.C.C.	
7	26/JAN/07	SRO	K.Y.	G.C.C.	
8	26/JAN/07	SRO	K.Y.	G.C.C.	
9	26/JAN/07	SRO	K.Y.	G.C.C.	
10	26/JAN/07	SRO	K.Y.	G.C.C.	

DESIGNED BY	NIL
DRAWN BY	SRO
CHECKED BY	K.Y. CHEUNG
IN CHARGE	G.C.C. HON
DATE	26/JAN/07

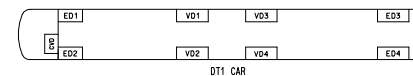


TITLE  
 SP1900 ELECTRIC MULTIPLE UNITS  
 ELECTRICAL SCHEMATIC  
 EXHAUST DAMPER CONTROL CIRCUIT (6/7)

SCALE		NTS @ A1	
ORIGINATOR	KS	ORIGINATOR REFERENCE	2-UB03149-6
DRAWING NUMBER	SP1900AB/XC/RR/M5008	REV	0
RAILWAY	ER	LOCATION	HTL
STAGE	Z	SHEET NO	1



ED3.4	EMERGENCY EXHAUST DAMPER	
EDCR	ALL ED FULL CLOSED RELAY	
EDOR	ALL ED FULL OPENED RELAY	
EM	EMERGENCY EXHAUST DAMPER	CONTROL
RA	RETURN AIR DAMPER CONTROL	
VD1-5	VENTILATION DAMPER	
VDOR	ALL VD FULL CLOSED RELAY	
VDOR	ALL VD FULL OPENED RELAY	



COMMAND SIGNAL			VENTILATIONDAMP (VD1-5) OPERATED STATUS
RA1	RA2	RA3	
H	H	H	STEP-0 FULL CLOSE
H	H	L	STEP-1
H	L	H	STEP-2
H	L	L	STEP-3
L	H	H	STEP-4
L	H	L	STEP-5 FULL OPEN

COMMAND SIGNAL (C3107)	EMERGENCY DAMPER (ED1-4)
EM	OPERATED STATUS
H	FULL CLOSE
L	FULL OPEN

KCRC WR	DT2	A	*	B901
KCRC WR	DT1	A	*	B901
APPLIED CAR	CAR TYPE	GROUP	PCS/CAR	KS DMC- COTED No

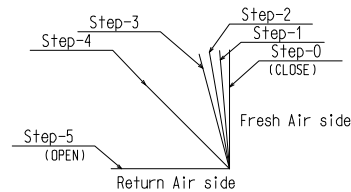
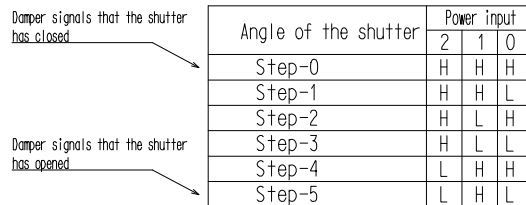
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DRAWN BY	SRD
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26JAN2007



TITLE	SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC EXHAUST DAMPER CONTROL CIRCUIT (7/7)
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SCALE		NTS @ A1	
ORIGINATOR KS	ORIGINATOR REFERENCE 2-UB03149-7	ORG REF REV 1	
DRAWING NUMBER SP1900AB/XC/RR/M5009			REV 0
RAILWAY ER	LOCATION HTL	STAGE Z	SHEET NO 1

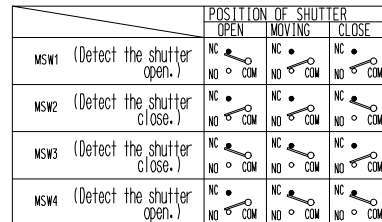


DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26JAN2007



TITLE	SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC FRESH / RETURN AIR DAMPER (2/2)
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MANUFACTURER'S DRAWING No.			
K-35679		REV. B	
SCALE			
NTS @ A1			
ORIGINATOR	ORIGINATOR REFERENCE	DWG REF NO.	
TOSHIBA	K-35679	B	
DRAWING NUMBER			REV
SP1900AB/XC/RR/M5010			0
RAILWAY	LOCATION	STAGE	SHEET NO
ER	HTL	Z	1

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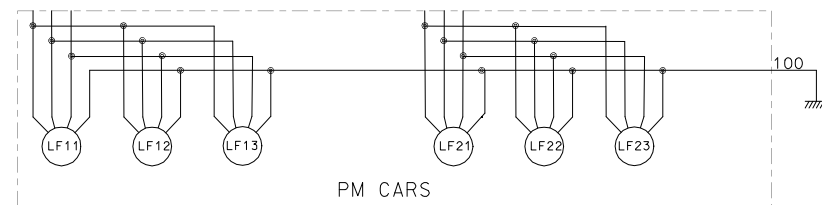
DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K. Y. CHEUNG
IN CHARGE	C. C. HON
DATE	26 JAN 2007



MANUFACTURER TOSHIBA CARRIER CORPORATION		MANUFACTURER'S DRAWING NO. K-35751 REV. A	
TITLE	SCALE		NTS @ A1
SP1900 ELECTRIC MULTIPLE UNITS ELECTRICAL SCHEMATIC EMERGENCY DAMPER (2/2)	ORIGINATOR TOSHIBA	ORIGINAL REFERENCE K-35751	DATE AND REV A
	DRAWING NUMBER SP1900AB/XX/RR/M5011		REV 0
RAILWAY	LOCATION	STAGE	SHEET NO
ER	HTL	Z	1







LF11-14(13) LINE FLOW FAN  
LF21-24(23) LINE FLOW FAN

[illegible]

DESIGNED BY	NIL
DRAWN BY	SRD
CHECKED BY	K.Y.CHEUNG
IN CHARGE	C.C.HON
DATE	26JAN2007



TITLE  
SP1900 ELECTRIC MULTIPLE UNITS  
ELECTRICAL SCHEMATIC  
~~DOOR CONTROL CIRCUIT~~  
~~PM2 - MW2 CAR~~  
LINEAR FAN CONTROL CIRCUIT

SCALE			
NTS @ A1			
ORIGINATOR KS	ORIGINATOR REFERENCE 1-UB03757	ONG REV C	
DRAWING NUMBER SP1900AB/XC/RR/M5002			REV 0
RAILWAY ER	LOCATION HTL	STAGE Z	SHEET NO 1