

Chapter 5. Body Unit

5. Body Unit

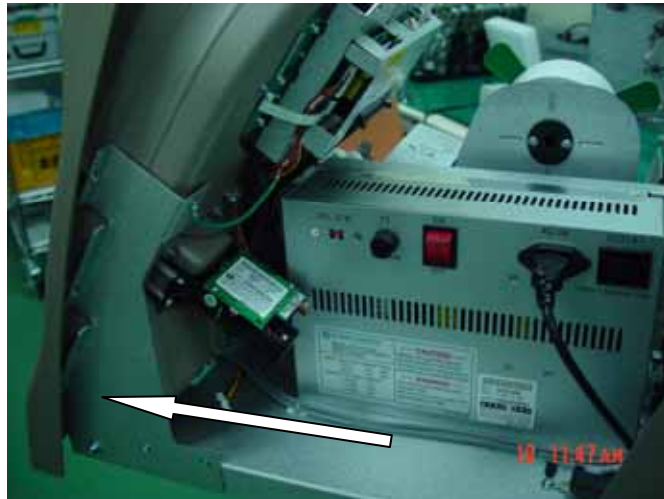
5.1 Control Electronics

5.1.1 Disassembly

- 1) Unlock the front panel with a key.



- 2) Pull the front part and open it.



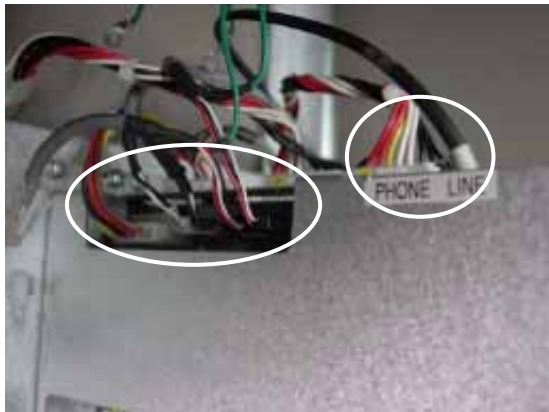
3) Unscrew the screw at the lower part.



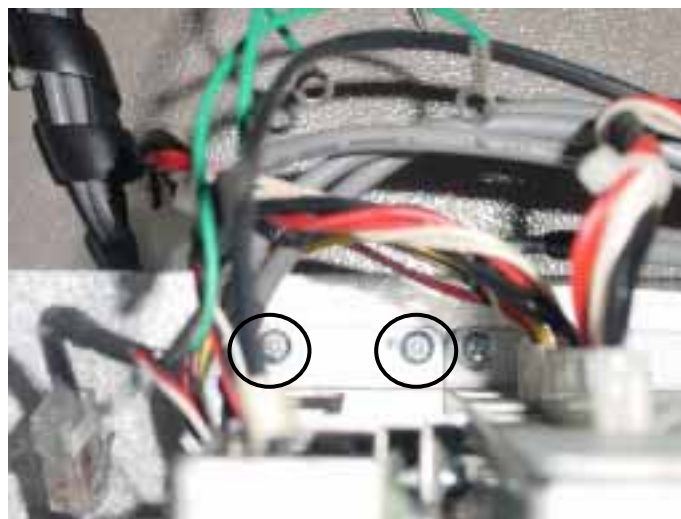
4) Disconnect the cable of the Slip Printer, and remove the Slip Printer.



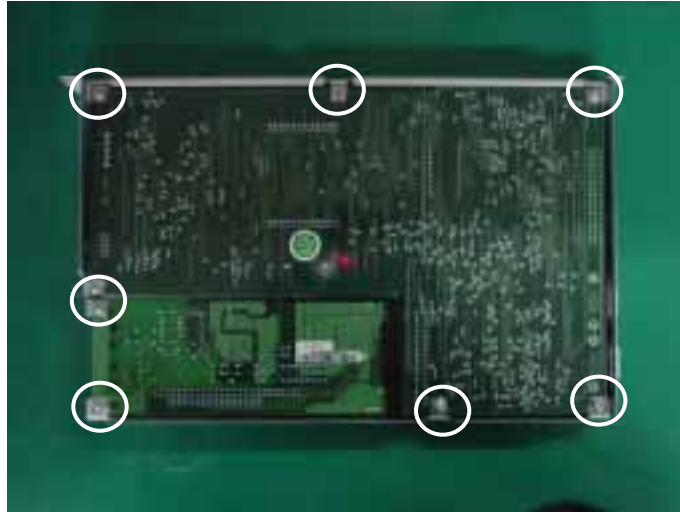
5) Disconnect all cables.



6) Unscrew to screws and remove the Control Electronics part.



7) After unscrewing all screws at the lower part, remove the main board, the modem and the case.



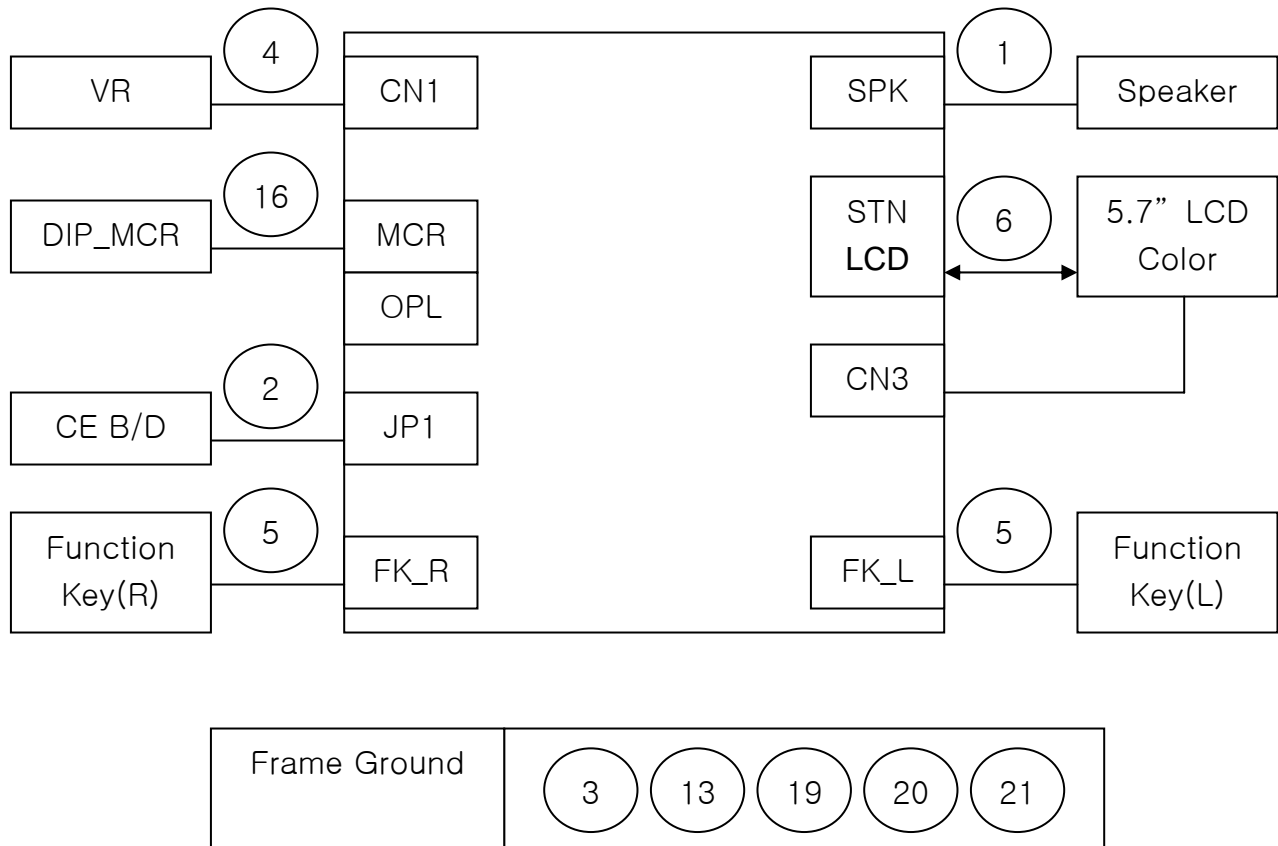
8) The following picture is after the main board, the modem and the case are removed.



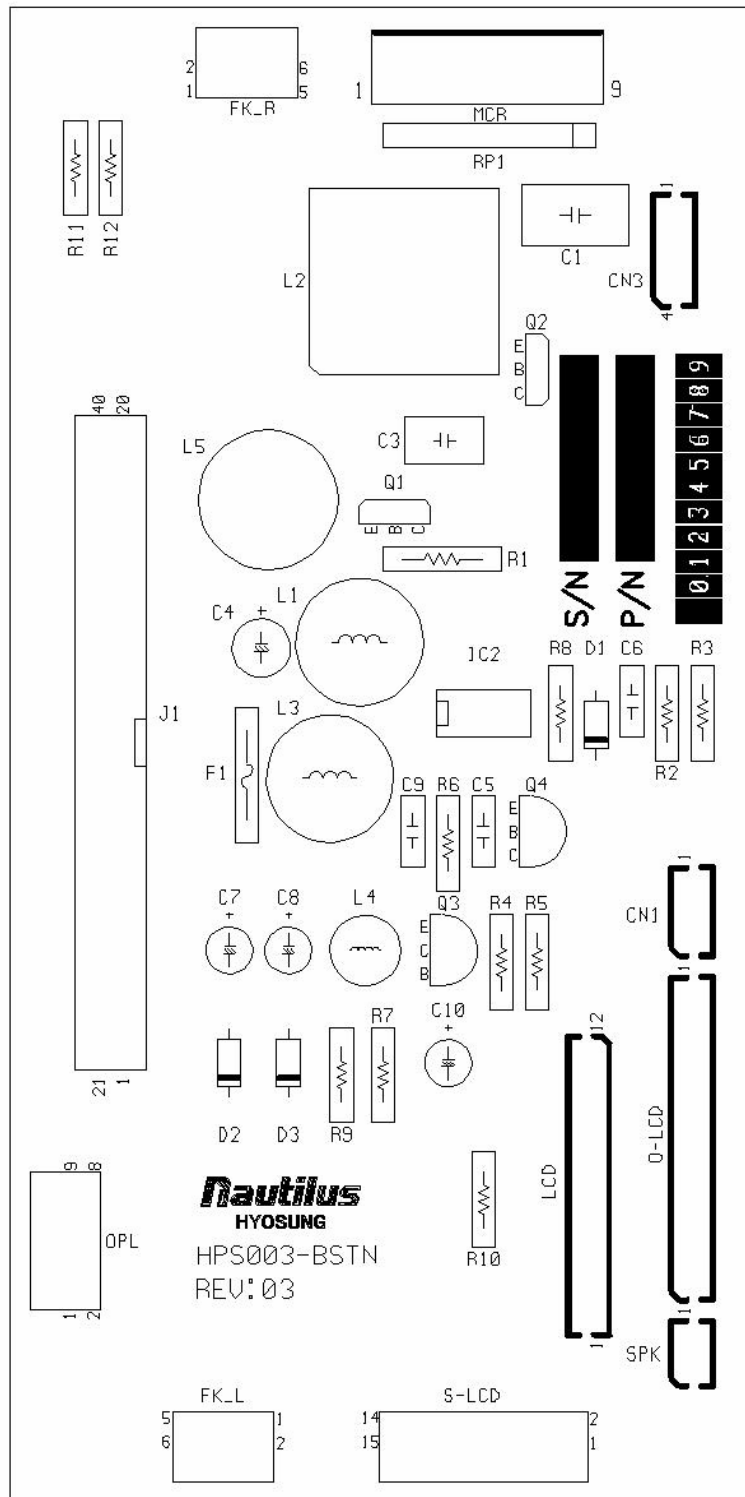
9) Assembling procedure is opposite to the disassembling procedure.

5.2 System Cable Connection Diagram

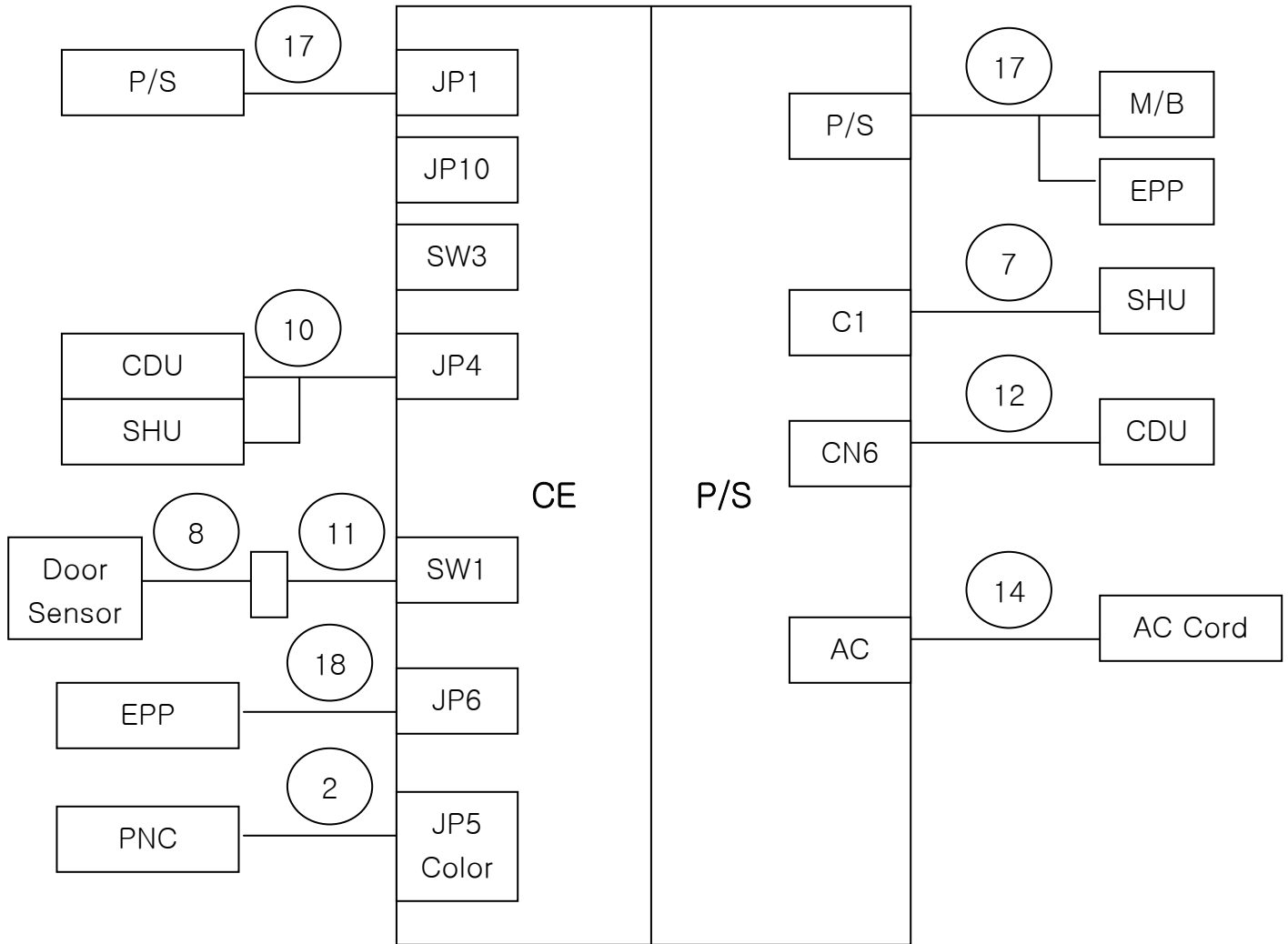
5.2.1 Cabling in the Customer Printer



- Panel Control Board Silk



5.2.2 Cabling for CONTROL ELECTRONICS & Power Supply

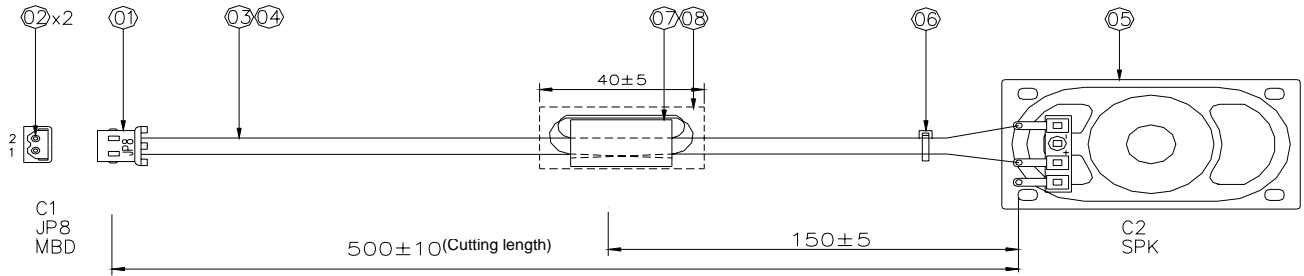


5.2.3 Cable List

No.	Serial No.	Cable Name	From	To	Ea	Drawing No.	Length
1	320528-08	SPK I/F	PNC	Speaker	1	Q31330	500
2	320050-32	PNC&CE I/F	PNC	CE	1	D37276	400
3	320549-08	FRAME GND	PNC	Body	2	Q30193	1500
4	320802-01	VOLUME	PNC	Volume	1	Q30251	130
5	332250-06	FFC CABLE	PNC	FK (R, L)	2	S00579	
6	320487-03	SIGNAL I/F	PNC	LCD	1	E10452	100
7	320786-02	:SHU PWR	P/S	SHU	1	Q30183	150
8	320089-01	UNIT SENSOR	CE	Sensor	1	D37213	200
9	321214-05	MAIN			1	Q31362	
10	320783-11	:DEVICE I/F	CE	CDU, SHU	1	D39142	2650
11	320800-06	SAFE SENSOR I/F	CE	Sensor	1	Q30230	2700
12	320785-02	CDU PWR	P/S	CDU	1	Q30182	1460
13	320549-22	FRAME GND	PNC	Body	1	Q30909	1330
14	332519-01	POWER	P/S	AC Code	1	T02111	
15	332806-01	MODEM			1	S00615	
16	321207-01	MCR I/F	PNC	MCR	1	E12349	370
17	320784-02	MBD, EPP PWR	P/S	M/B	1	Q30177	600
18	321200-01	EPP I/F	CE	EPP	1	Q30710	350
19	320549-13	FRAME GND	PNC	Body	1	Q30193	1500
20	320549-17	FRAME GND	PNC	Body	1	Q30193	1500
21	320549-05	FRAME GND	PNC	Body	1	Q30193	1500

5.2.4 Cable Diagram

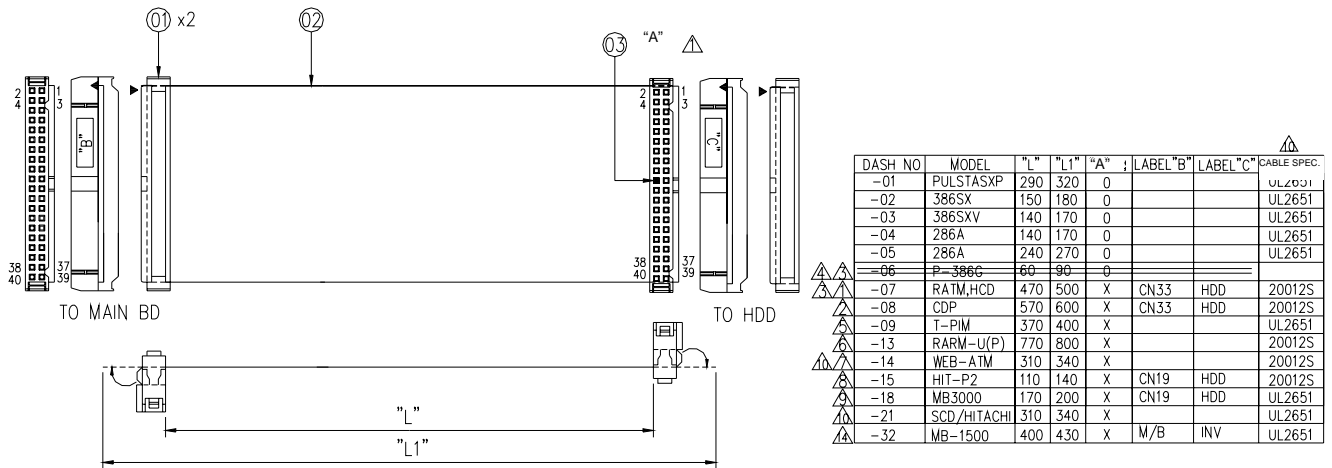
1) Q31330 (320528-08)



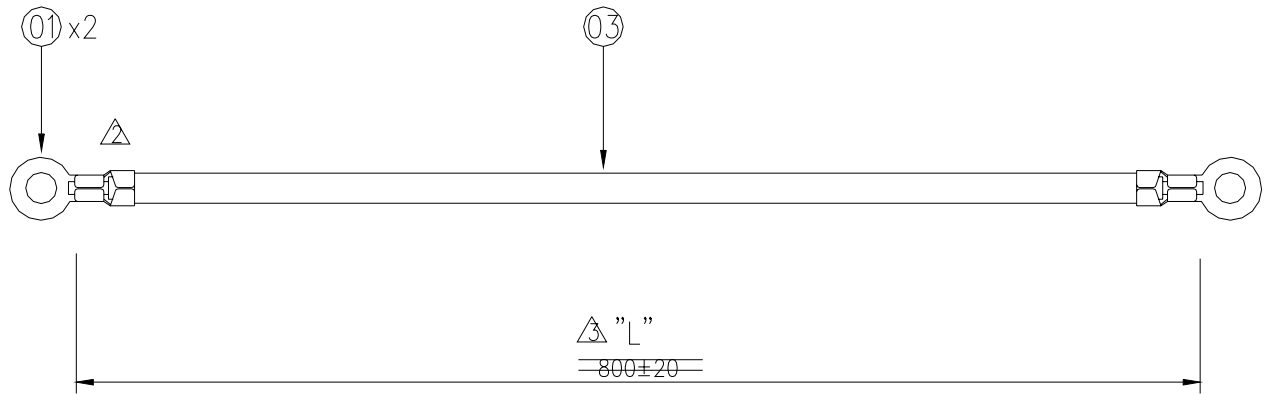
PIN CONFIGURATION

C1	C2	PIN CONFIG.	REMARKS
1	1(+)	SIGNAL	RED
2	2(-)	GND	BLACK

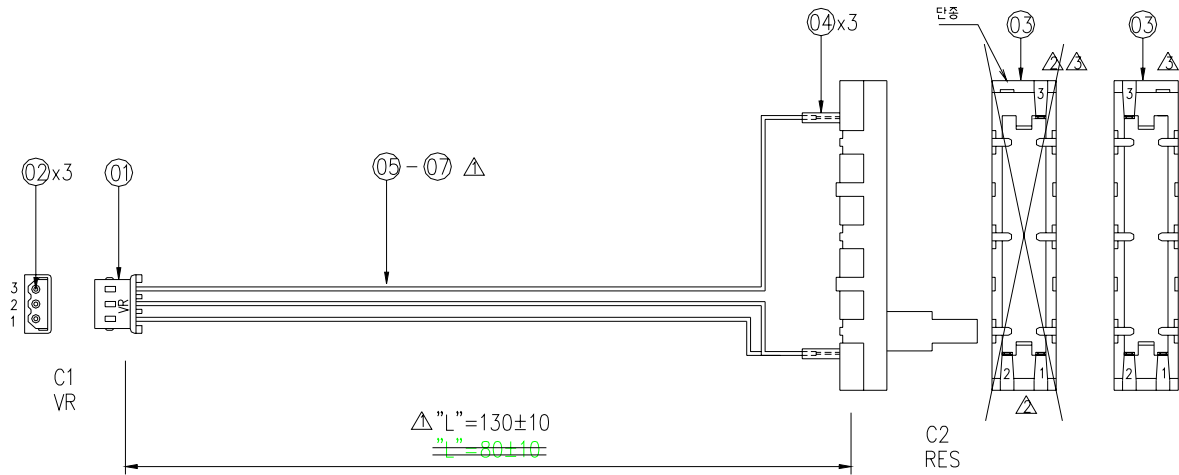
2) D37276 (320050-32)



3) Q30193(320549-08)



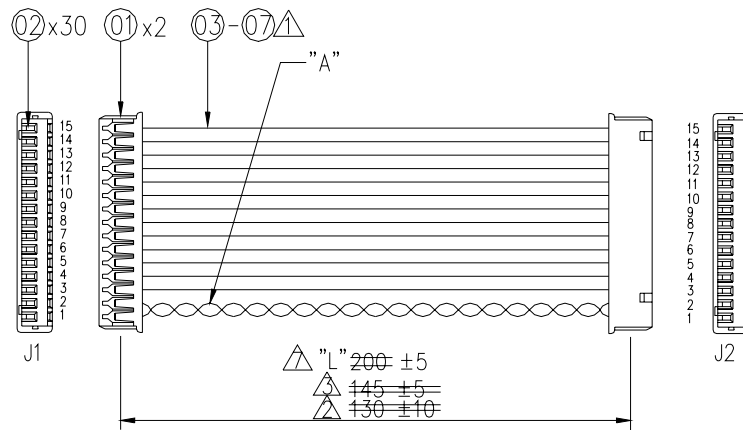
4) Q30251 (320802-01)



PIN CONFIGURATION $\triangle \triangle$

C1 VR	C2 RES	REMA RKS
1	± 2	BLACK
2	± 1	YELLOW
3	3	RED

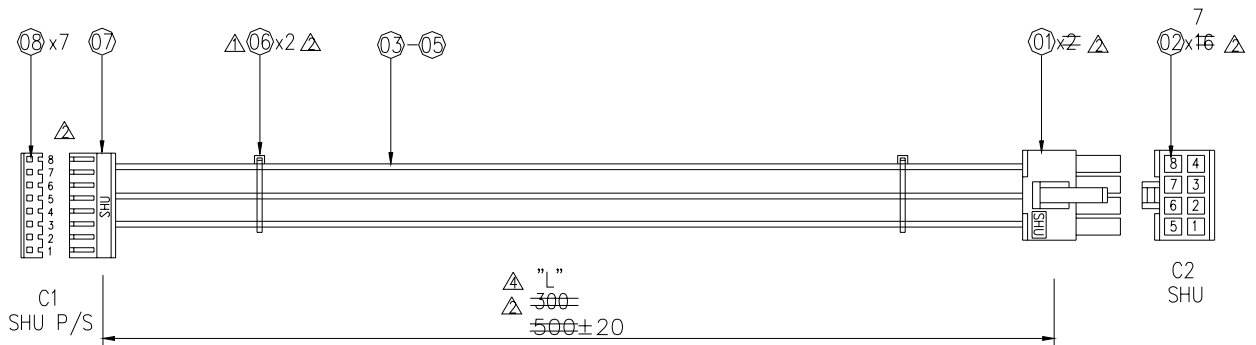
5) E10452(320487-03)



PIN CONFIGURATION \triangle

J1	J2	REMA RKS	J1	J2	REMA RKS
1	1	ORANGE	9	9	BLACK
2	2	BRWON	10	10	BRWON
3	3	YELLOW	11	11	ORANGE
4	4	BLACK	12	12	RED
5	5	BRWON	13	13	YELLOW
6	6	ORANGE	14	14	BLACK
7	7	BRWON	15	15	BRWON
8	8	YELLOW			

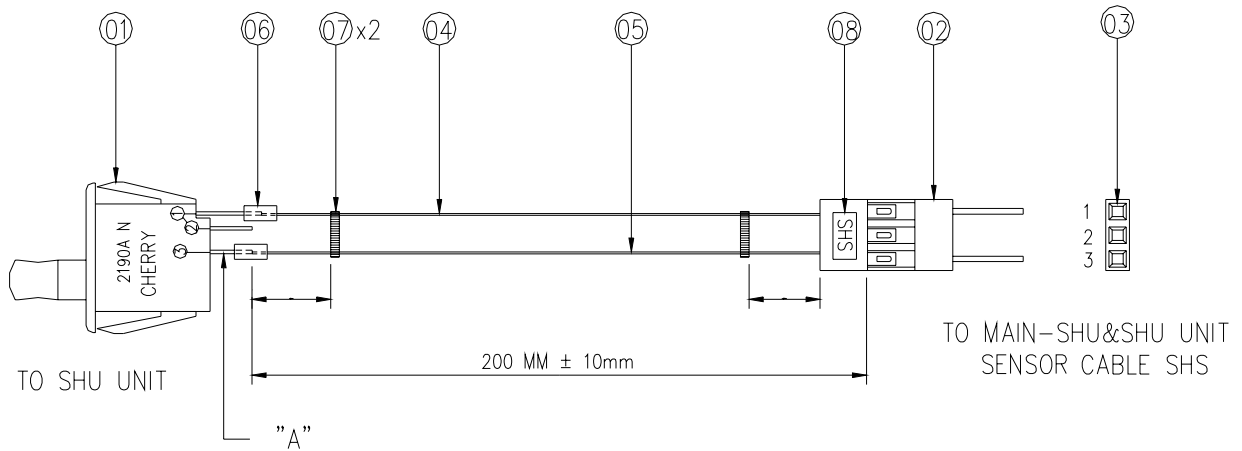
6) Q30183(320786-02)



PIN CONFIGURATION \triangle

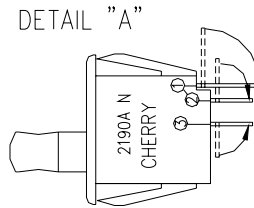
C1 SHU P/S	C2 SHU	PIN CONF.	REMA RKS
1	3	GND	BLACK
2	4	GND	BLACK
3	5	GND	BLACK
5	7	+24V	WHITE
6	8	+24V	WHITE
7	1	+5V	RED
8	2	+5V	RED

7) D37213 (320089-01)

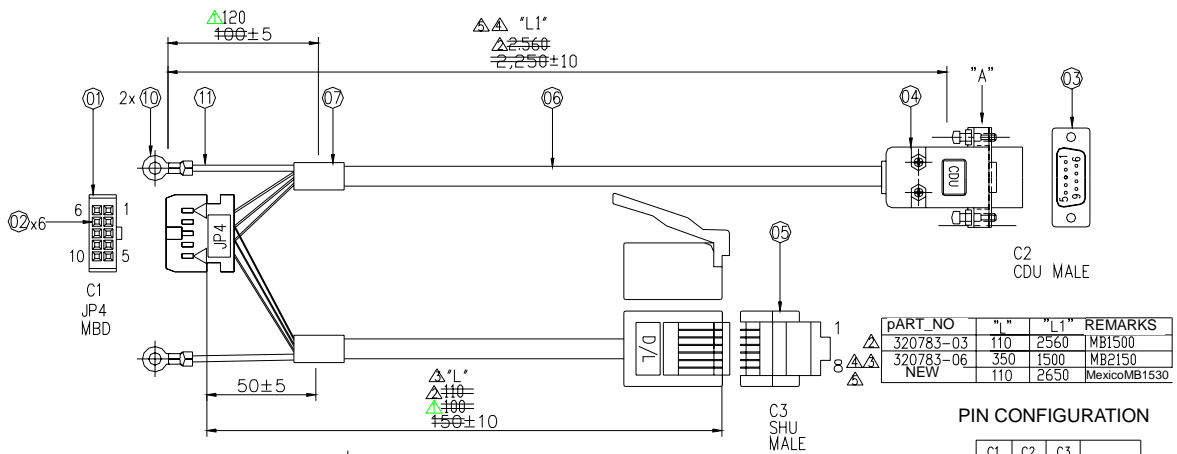


PIN CONFIGURATION

ITEM	SWITCH SENSOR	SHS	WIRE SPECIFICATION		
			GAUGE	COLOR	L(M/M)
1	1	1	UL 1007 26AWG	YELLOW	200
2	3	3	UL 1007 26AWG	BLACK	200

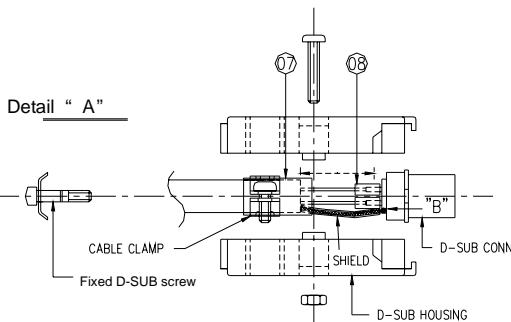


8) D39142(320783-11)

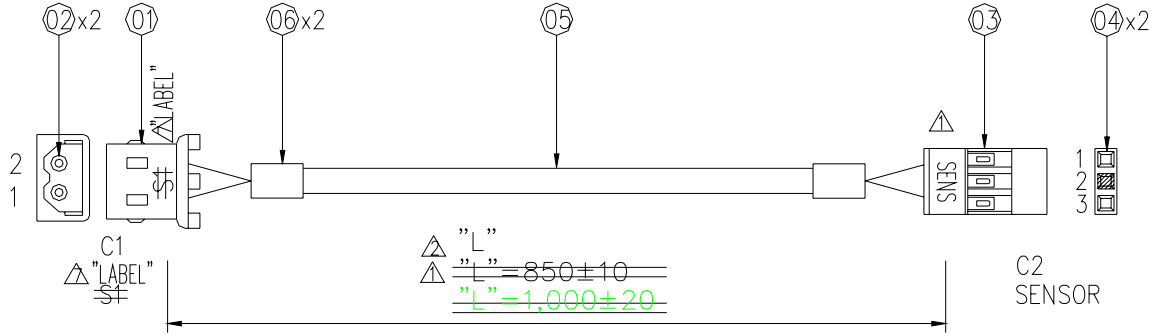


PIN CONFIGURATION

C1 JP4	C2 CDU	C3 SHU	CONFIG
2	3	3	TXD
3	2	2	RXD
4	5	5	GND
5	5		GND
9	3		TXD/RXD
10	2		RXD/TXD



9) Q30230(320800-06)

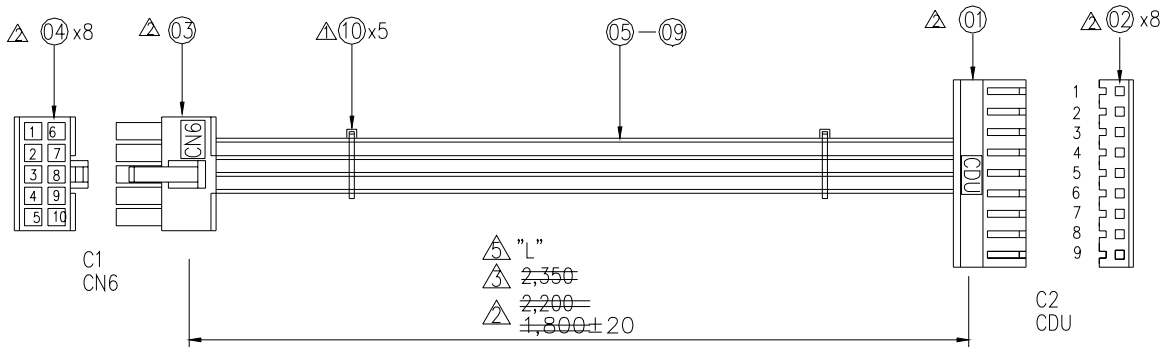


PART_NO	"L"	"LABEL"	REMARKS
320800-01	850 ± 10	S1	
320800-02	950 ± 10	1,000	BACK SIDE
320800-03	$1,300 \pm 10$	S1	MB1500
	$2,550$	S1	MB1500
	$2,700$		

PIN CONFIGURATION

C1	C2	PIN CONFIG.	REMARKS
S1	SENS		
1	1		
2	3		

10) Q30182(320785-02)

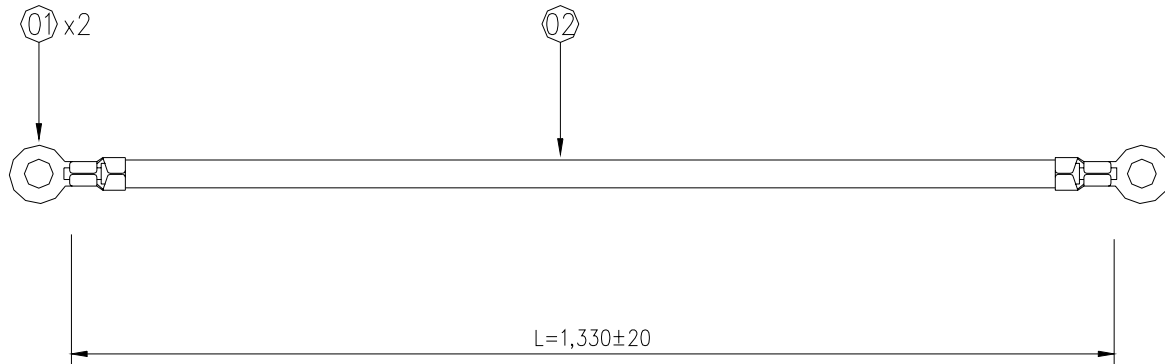


PIN CONFIGURATION

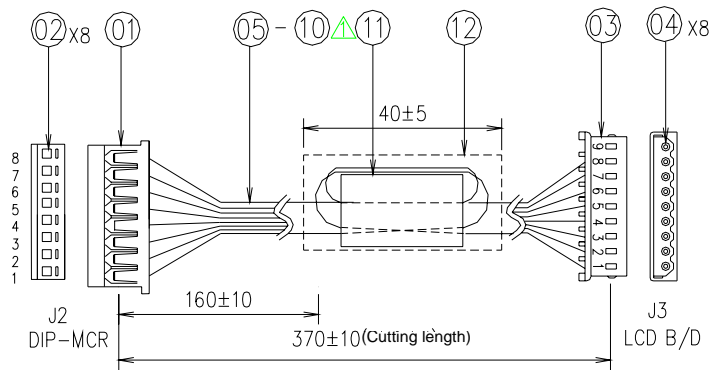
C1	C2	PIN CONF.	REMARKS
CN6	CDU		
1	7	+5V	RED
2	8	+5V	RED
4	6	+12V	YELLOW
3	1	GND	BLACK
6	2	GND	BLACK
7	3	GND	BLACK
8	4	+24V	WHITE
9	5	+24V	WHITE
10	9	GND	BLACK

PART_NO	"L"	REMARKS
320785-01	2,350	1 CASSETTE
320785-02	2,660	2 CASSETTE
320785-03	2,000	MB1500
320785-04	2,200	2,520
320785-04	1,460	MB1500

11) Q30909(320549-22)



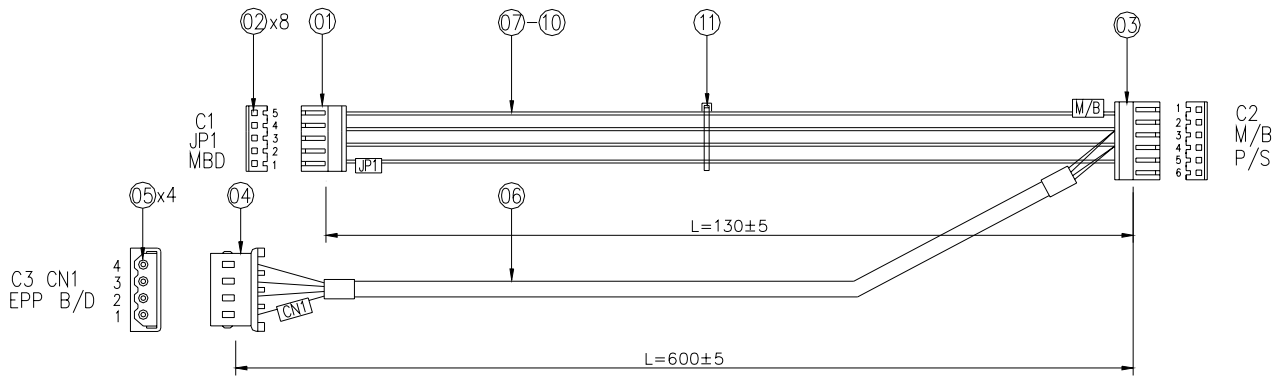
12) E12349(321207-01)



PIN CONFIGURATION

J2 MCR	J3 LCD B/D	PIN CONFIG.	REMARKS
1	1	12V	YELLOW
2	2	END-SENSOR	ORANGE
3	3	CLK1	RED
4	4	DATA1	BRWON
5	5	CPD	ORANGE
6	6	CLK2	BRWON
7	7	DATA2	BLUE
8	8	GND	BLACK
	9	VCC	N.C

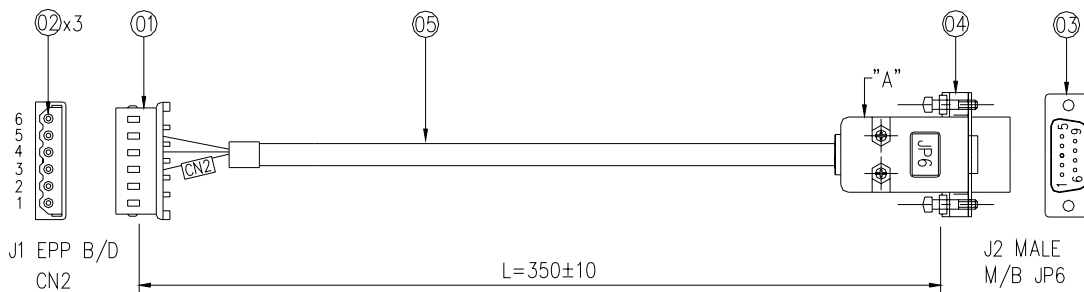
13) Q30177(320784-02)



PIN CONFIGURATION

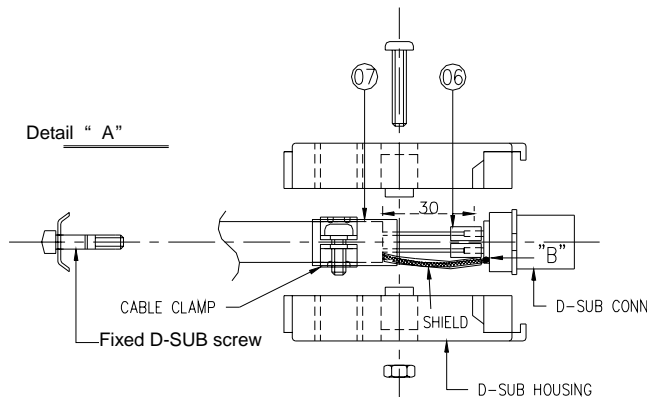
C1 JP1	C2 M/B	C3/EPP CN1	PIN CONFIG.	REMARKS
1	6		P.G	BROWN
4	* 4	3,4(GREEN,BLACK)	GND	BLACK
3	* 3	1,2(GREEN,WHITE)	+5V	RED
5	1		+12V	YELLOW

14) Q30710(321200-01)



PIN CONFIGURATION

J1 CN2	J2 JP6	PIN CONFIG.	REMARKS
3	2	RXD	WHITE
4	3	TXD	RED
5	5	SG	BLACK

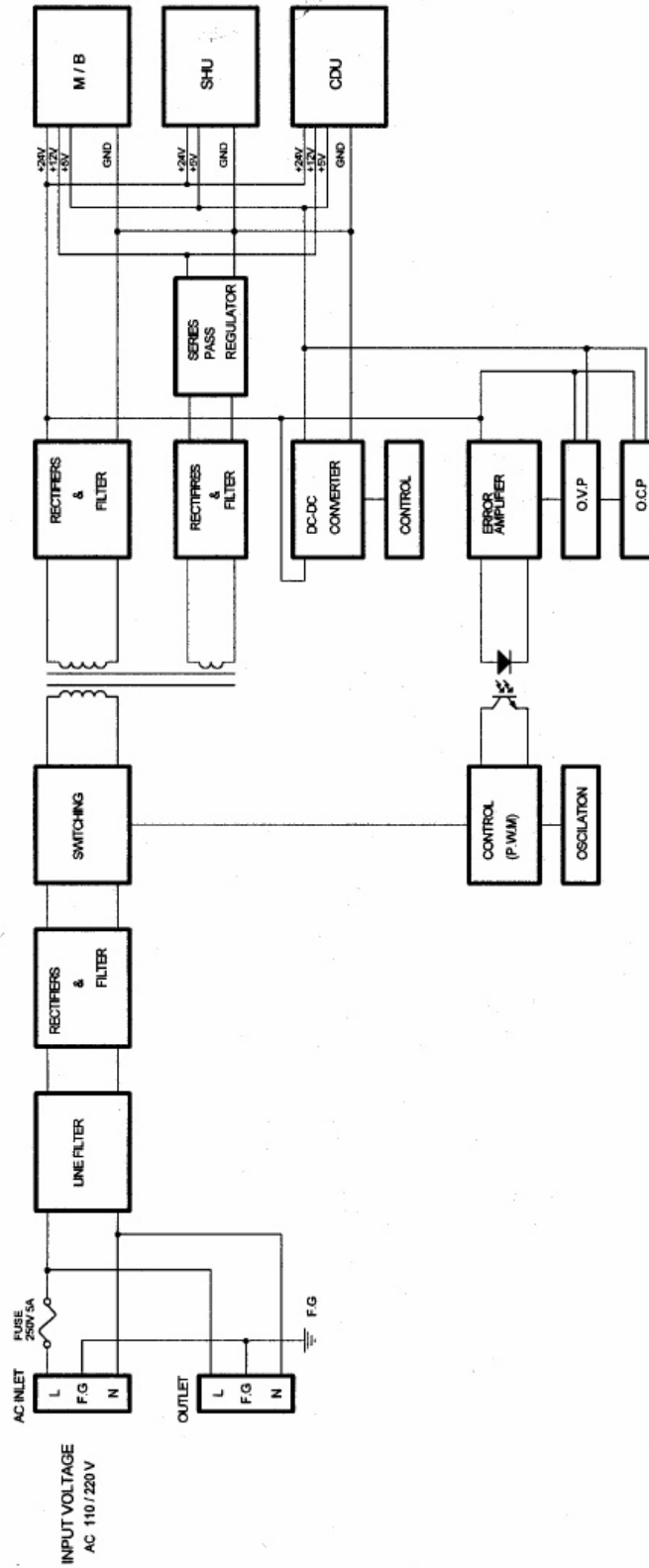


5.3 Main Power Supply

5.3.1 Appearance



5.3.2 Block Diagram



5.3.3 Specification

1) Environmental Conditions

Condition	Operating	Storage		Condition	Operating	Movement
Temperature	0 ~ 45°C	-40 ~ 70°C		Vibration	0.5G	2.0G
Humidity	30 ~ 90%	10 ~ 90%		Impact	5.0G	10.0G
M.T.B.F	30,000Hrs					

2) Mechanical Specification

Dimension (Main)	280(L) x 180(W) x 75(H)		Case Color	White
Case Material	GAL 1.6t		Case Drawing No.	
Weight	About 1.0Kg		Model Label	UL94-V0

3) Withstanding Voltage & Insulation Resistance

Division	Test Point	Test Input Voltage	Test Condition
Withstanding Voltage	PRI – SEC	1.5 Kvac	During the Test: 1 min Cutoff Current: 10mA
	PRI - F.G	1.5 Kvac	
Insulation Resistance	PRI – SEC	500 Vdc	During the Test: 1 min Insulation Resistance: ≥ 10Mohm
	PRI - F.G	500 Vdc	

4) Safety: UL1950 or UL291

5) Input Specification

Division	Specification
Input Connection	Inlet Filter (250Vac 6A)
Input Voltage / Current	110/220Vac $\pm 20\%$
Frequency	47 ~ 63Hz (Normal: 50/60Hz)
Distortion	10%
Efficiency	70% MIN (at the maximum load)
Hold-up Time	16.7ms MIN
Inrush Current	80A MAX
Leakage Current	3 .5mA MAX

6) Output Specification

Division	Specification			Unit
Channel	+5.0	+12.0	+24.0	Vdc
Voltage	4.75 ~ 5.25	11.4 ~ 12.6	22.8 ~ 25.2	Vdc
Current	0.5 ~ 8.0	0 ~ 0.7 (PEAK 1.5A / 40mS)	0 ~ 5.0 (PEAK 10A / 30mS)	A
Method	SWITCHING	SW & REG	SWITCHING	-
Ripple	50	120	240	mVp-p
Noise	0.3	0.4	1.0	Vp-p
Shoot	± 3	± 3	± 5	%
OVP	5.6 ~ 7.0	-	27.0 ~ 35.0	Vdc
OCP	S.C	S.C	10.0 ~ 16.0	A

NOTE 1) Ripple & Noise Test Condition: 20MHz, 150uF(ELEC)/0.1uF(CER)

2) S.C: Short Circuit

7) Connector Configuration

(1) AC Input

Division	Pin No.	Configuration	Size	Color	Remark
AC In	1	L	18AWG/UL1015	Black	Inlet Filter (ID-0642-S)
	2	F.G	18AWG/UL1015	GRN/YEL	
	3	N	18AWG/UL1015	White	

(2) AC Output

Division	Pin No.	Configuration	Size	Color	Remark
Outlet	1	N	18AWG/UL1015	White	Outlet (0178-1-PQ)
	2	F.G	18AWG/UL1015	GRN/YEL	
	3	L	18AWG/UL1015	Black	

(3) CN 1

Division	Pin No.	Configuration	Size	Color	Remark
M/B	1	+12V	18AWG/UL1007	Orange	MOLEX (5274-06P)
	2	+5V	18AWG/UL1007	Red	
	3	+5V	18AWG/UL1007	Red	
	4	GND	18AWG/UL1007	Black	
	5	GND	18AWG/UL1007	Black	
	6	P.G	18AWG/UL1007	Green	

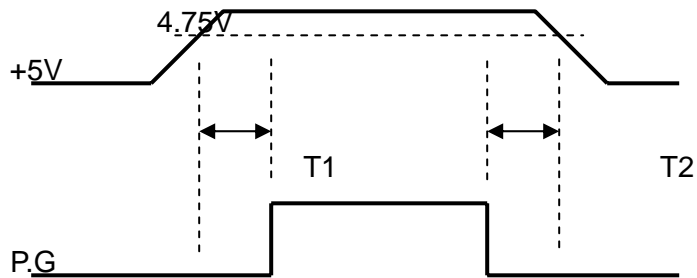
(4) CN 3

Division	Pin No.	Configuration	Size	Color	Remark
SHU	1	GND	18AWG/UL1007	Black	MOLEX (5274-08P)
	2	GND	18AWG/UL1007	Black	
	3	GND	18AWG/UL1007	Black	
	4	GND	18AWG/UL1007	Black	
	5	+24V	18AWG/UL1007	White	
	6	+24V	18AWG/UL1007	White	
	7	+5V	18AWG/UL1007	Red	
	8	+5V	18AWG/UL1007	Red	

(5) CN 4

Division	Pin No.	Configuration	Size	Color	Remark
CDU	1	GND	18AWG/UL1007	Black	MOLEX (5274-09P)
	2	GND	18AWG/UL1007	Black	
	3	GND	18AWG/UL1007	Black	
	4	+24V	18AWG/UL1007	White	
	5	+24V	18AWG/UL1007	White	
	6	+12V	18AWG/UL1007	Orange	
	7	+5V	18AWG/UL1007	Red	
	8	+5V	18AWG/UL1007	Red	
	9	GND	18AWG/UL1007	Black	

8) Signal Sequence



$T1 \geq 300\text{mS}$

$T2 \geq 1\text{mS}$