Product specifications

Model No.	Made on
PCSA-300P-X2V	November 8,2002

General specifications

	Items		Specifications	Measuring conditions,etc.
Input	Rated voltage		AC100V-240V	
	Voltage range		AC90V-264V	Harmonic current correction works up to 253 V
	Rated frequency		50/60Hz	Range 47～63Hz
	Inrush current		50A peak	At AC240V input at rated output Non repeatable within 10 seconds
	Input VA	Operating	380VA typ	AT rated output
		Stand-by	30 VA typ(at 100V)/60 VA typ(at240V)	PS-ON signal is 'H' or 'OPEN', at 5VSB output under rated load
	Efficiency		68% or more (73% typ)	At rated output
Environmental	Anbient temperature/humidity		0～60℃(note)/20～90%RH	No condensation
	Storage temperature/ humidity		-20～70℃/10～95%RH	No condensation
	Vibration		Max amplitude 0.15mm, Frequency 10～55Hz Sweep cycle 3 min, Endurable for 30min at each axis of X, Y, and Z	No operation
	Shock		Acceleration 98m/S², Shock affecting time 20mS, Shock is given one time to the directions of X,Y and Z and no faulty function is recognized.	No operation
Others	Insulation resistance		50MΩ or more in each connection between inputs and FG and output, or connection between outputs and FG	At DC500V
	High pot		AC1.5KV for 1 minute in connection with inputs, FG, and output	Current limit is 20mA or less
	Leakage current		0.5mA or less (at AC100V input)/1mA or less (at AC200V input)	At rated output
	Line noise immunity		2000V or more (pulse width 100/1000nS, Repeating cycle 30～100Hz)	Measured at INS-410. No output fluctuation and no faulty operation
	Surge immunity		Conforms to IEC61000-4-5 (Installation environment class 3)	No damage
	Conducted emissions		Conforms to VCCI class A /CISPR22 class A	Measured at power supply unit itself at rated output
	Harmonic current correction		Conforms to IEC1000-3-2 class A	At input voltage range of 90～253V
	Safety Standard(Approved)		UL1950, CSA950(C-UL), EN60950(TÜV)	Class I equipment, component power supply
	Cooling system		Forced air cooling (temperature sensing type with variable speed fan)	Fan speed varies upon temperature and load.
	Size		150(W)×86(H)×140(D)	
	Weight		1.8Kg typ	
	Reliability grade		HOA	Nipron standard
	Fan expecting life		50,000 hours or more	At 40℃
	Warranty period		One year guarantee after delivery. Repair or replacement at no cost when defect is found due to the manufacturers fault	Except the operation is out of specifications

(Note) Refer to the de-rating conditions
All specifications are subject to change without prior notice.

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A-Shirai	A-Takeda	5070-06-4-520	1/7

Product specifications

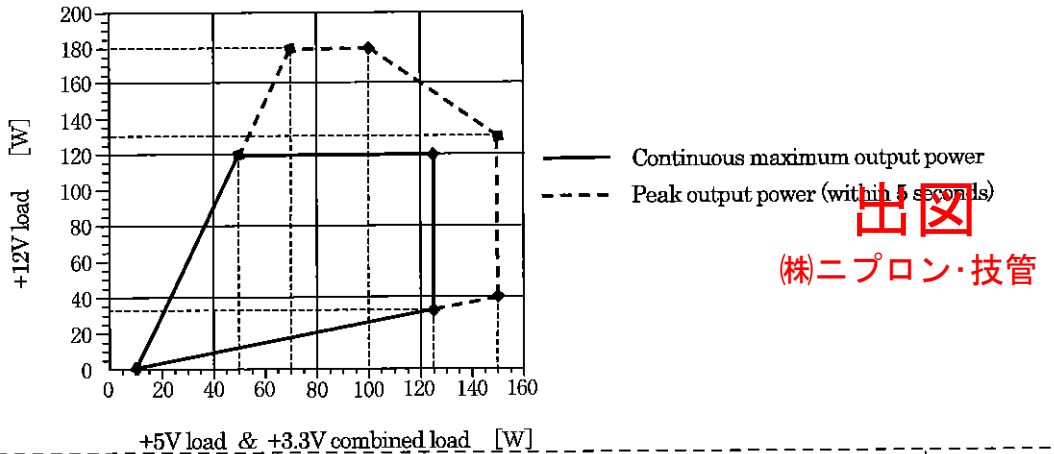
Model No. PCSA-300P-X2V	Made on November 8,2002

Output specifications (Voltage measuring location is at output terminal)

	Items	CH1	CH2	CH3	CH4	CH5	CH6	Note
Output ratings	Rated voltage [V]	3.3	5	12	−5	−12	5SB	
	Rated current [A]	5	20	10	0.5	0.5	1	Specified load at the measurement on input and output characteristics. Rated total output power is 250W (continuous)
	Rated power [W]	16.5	100	120	2.5	6	5	
	Max. current [A]	15 (Total 25A or less)	25	10	0.5	0.5	1	Max.total output power 258.5W (continuous)
	Max. power [W]	Total 125W		120	2.5	6	5	
	Peak current [A]	20 (Total 30A or less)	30	15	0.5	0.5	1.5	Peak current within 5 seconds. Peak total output power 295W for 5 seconds max..
	Peak power [W]	Total 280W or less			2.5	6	7.5	Refer to Figure 1
	Min. current [A]	0	2	0	0	0	0	Refer to Figure 1
Output characteristics	Line regulation 1 at continuous max output power [mV]	±150 or less	±225 or less	±550 or less	±250 or less	±600 or less	±225 or less	Refer to Figure 1
	Line regulation 2 at peak output power [mV]	±165 or less	±250 or less	±720 or less	±250 or less	±600 or less	±250 or less	At the peak power. Refer to Figure 1
	Total constant voltage accuracy [%]	±5 or less	±5 or less	±5 or less	±6 or less	±6 or less	±5 or less	It consists of Line regulation, temperature drift and time drift.
	Ripple voltage [mVp-p]	50 or less	50 or less	120 or less	50 or less	120 or less	50 or less	Measured at the end of connectors with capacitors (47 μF) and loads. The cable length is within 150mm.
	Noise voltage [mVp-p]	100 or less	100 or less	170 or less	100 or less	170 or less	100 or less	
	Rise time [mS]	30 or less						From 10 to 90% of output rise time. (rated resistive load)
Protective Circuit /Anthers	O.C.P. OCP knee point [A]	21 or more	—	—	—	—	—	At all minimum loads except measured output
		—	31 or more	15.1 or more	0.53 or more		1.6 or more	At maximum loads except measured output (CH1 only is no load)
	O.C.P. Recovery	Power re-turning on※			Auto-recovery			※Power re-turning on interval is 10 secs or more(note)
	O.V.P. OVP trip point [V]	3.7 ~4.3	5.6 ~7.0	13.8 ~15.6	—	—	—	
	O.V.P. Recovery	Power re-turning on ※			—	—	—	※Power re-turning on interval is 10 secs or more(note)
	Output voltage remote sensing	CH1 positive output side only (voltage drop compensation is 100mV max)						Refer to the signal and output specifications and connectors' pin assignment with maximum current capability
	Insulation between each GND of outputs	All output GNDs are common.						

(Note) Alternatively reset the PS-ON signal.

(Figure 1):Cross distribution chart of output power.
Use within the safety area indicated below chart.



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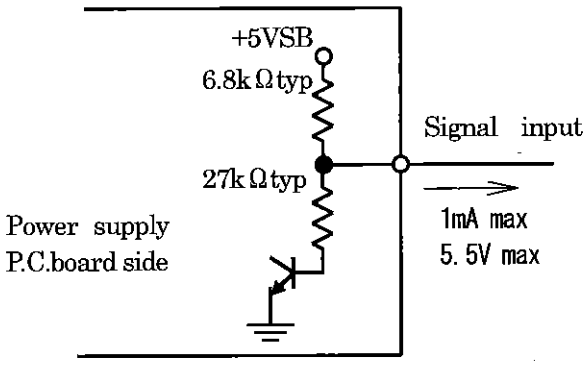
Product specifications

Model No.	Made on
PCSA-300P-X2V	November 8,2002

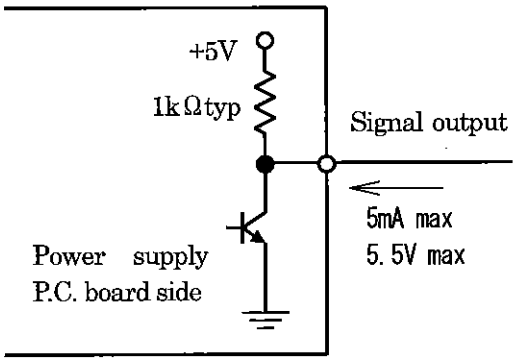
Signal in/output specifications

	Items	Specifications
Input	PS-ON	'L' makes CH1~5 putout . 'H' or 'OPEN' does not CH1~5 output, in case of protection circuit working, 'H' or 'OPEN' makes protection circuit reset.
Input	FAN C	When signal input is more than 9V±5% (18V max), a fan rotates at maximum speed. When signal input is either less than 9V±5% or no signal, the fan is controlled by internal condition.
Input	+3.3V SENSING	This is a voltage sensing wire for compensation of line drop to the load. It should be connected to positive side of the load. Refer to a pin assignment of the connector.
Output	PW-OK	'H' signal is outputted at the CH2(+5V) output ON.
Output	FAN M	Two square wave pulses per rotation are outputted. The duty cycle is 50% typical. At the malfunction of the fan, the signal shows 'L' or'OPEN'.

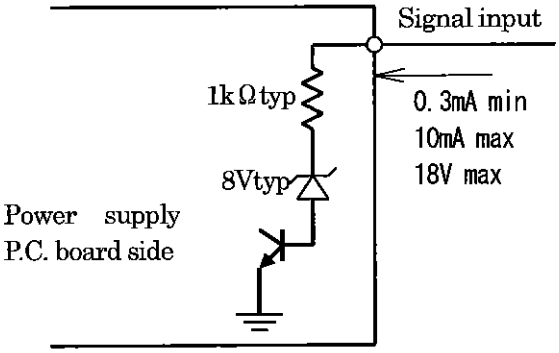
PS-ON signal input circuit



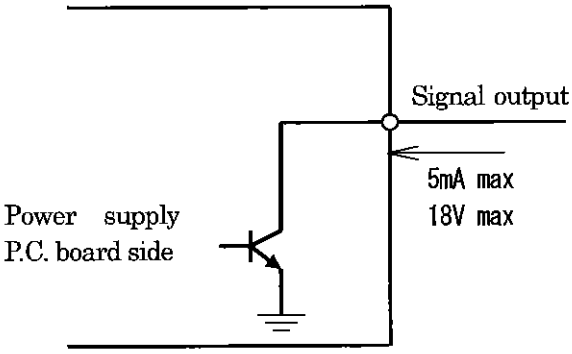
PW-OK signal output circuit



FAN C signal input circuit



FAN M signal output circuit



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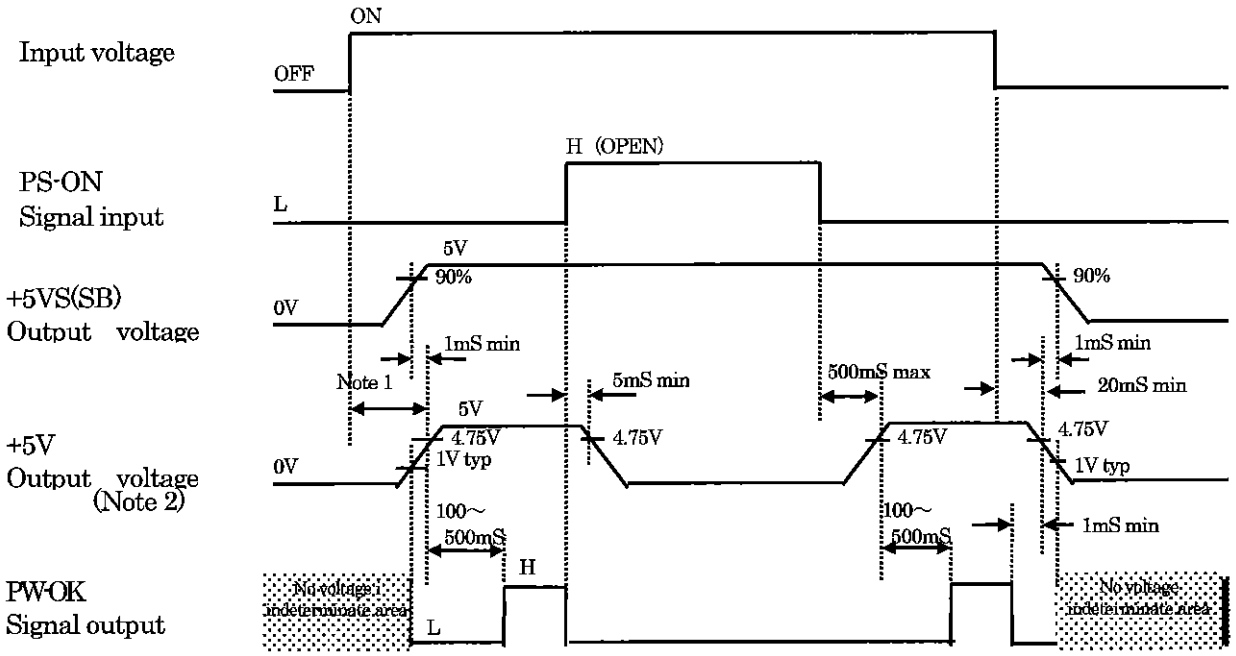
A-Shirai	A-Takeda	5070-06-4-520	3/7

Product specifications

Model No.	Made on
PCSA-300P-X2V	November 8,2002

Sequence specifications (At rated input/output and room environment)



Note 1: Start-up time is 2000mS typ at AC100V input, and 800mS typ at AC240V input.
Note 2: Other output voltages conform to the above Note 1 except the value of voltages.

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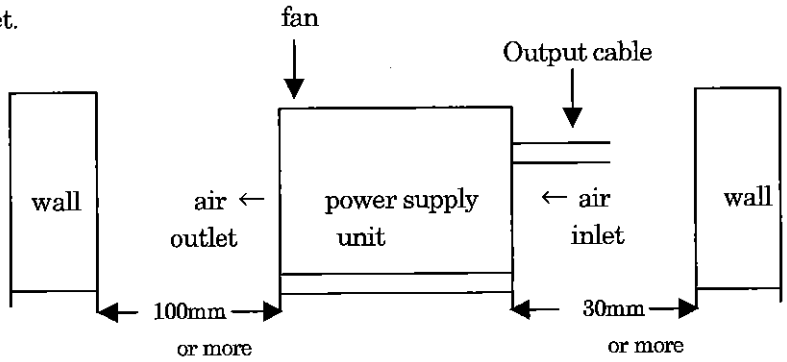
Model No.	Made on
PCSA-300P-X2V	November 8,2002

Installation

1. This power supply unit should be installed with the clearance as shown below from the wall to its air inlet and outlet.



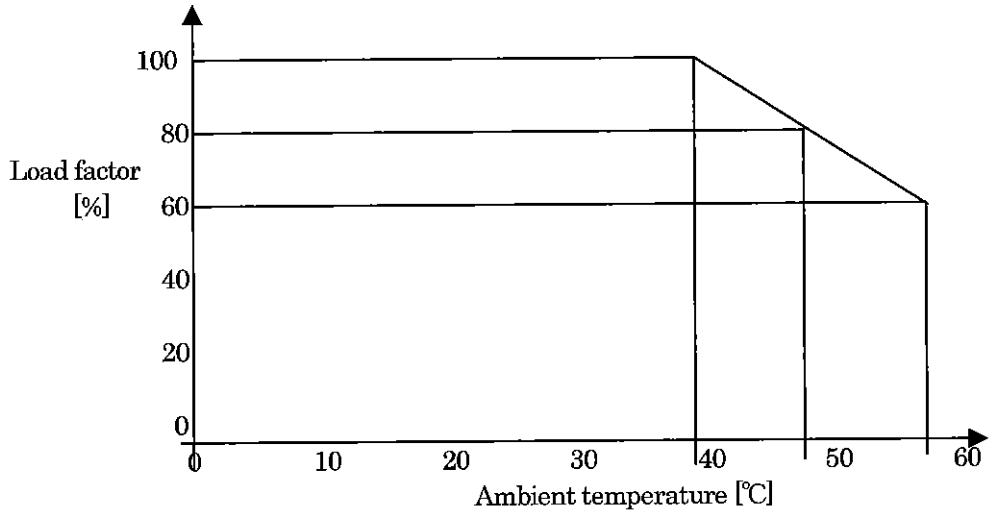
2. Temperature around the air inlet area of the power supply unit should not exceed the maximum operating temperature. (Refer to the temperature de-rating.)

Temperature de-rating

When the ambient temperature (temperature near the air inlet) exceeds 40℃, the output current and power should be de-rated in accordance with the following de-rating chart.

100% means full load which includes CH1+CH2 = full load.

All outputs should comply with the following de-rating chart and peak power.



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Drawn by	Approved by	Drawing No.	Sheet No.
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Product specifications

Model No.	Made on
PCSA-300P-X2V	November 8,2002

Pin assignment of connectors with max current

Acceptable maximum current per pin of the connectors is shown below. The total current of each output should not exceed the rated (maximum) output current.

Connector	Pin No.	Signal output	Max current	Remarks
P1	1	+3.3V	5.0A	
	2	+3.3V	5.0A	
	3	GND	5.0A	
	4	+5V	5.0A	
	5	GND	5.0A	
	6	+5V	5.0A	
	7	GND	5.0A	
	8	PW-OK	5mA	Signal Output
	9	+5VSB	1.5A	
	10	+12V	5.0A	
	11	+3.3V& SENSING	5.0A	3.3V sensing cable and double crimping (Note)
	12	-12V	0.5A	
	13	GND	5.0A	
	14	PS-0N	1mA	Signal Input
	15	GND	5.0A	
	16	GND	5.0A	
	17	GND	5.0A	
	18	-5V	0.5A	
	19	+5V	5.0A	
	20	+5V	5.0A	
P2	1	GND	5.0A	
	2	GND	5.0A	
	3	+12V	5.0A	
	4	+12V	5.0A	
P4,P5,P8 P9,P10	1	+12V	4.0A	P8,P9,P10 Total 9A or less
	2	GND	4.0A	P8,P9,P10 Total 9A or less
	3	GND	4.0A	P8,P9,P10 Total 9A or less
	4	+5V	4.0A	P8,P9,P10 Total 9A or less
P6	1	+5V	1.0A	
	2	GND	1.0A	
	3	GND	1.0A	
	4	+12V	1.0A	
P7	1	FAN M	5mA	Signal output
	2	FAN C	10mA	Signal input
	3	+3.3V SENSING	10mA	3.3V sensing input (Note)
	4	N.C.	---	Unconnected
	5	N.C.	---	Unconnected
	6	N.C.	---	Unconnected

(Note) +3.3V sensing are provided at Pin No. 11 of P1 and No. 3 of P7. When both are connected, Pin No. 3 of P7 is prior the use. When No. 3 of P7 is unconnected, No. 11 of P1 is used for sensing.

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Product specifications

Model No.	Made on
PCSA-300P-X2V	November 8,2002

Cautions on operation

1.Ground WARNING

This power supply unit is manufactured as the class I devise. The earth terminal should be grounded by a right way for the sake of security.

2.Electric shock WARNING

This power supply unit is manufactured for setting in a equipment. An appropriate method should be taken at the installation in order to avoid the electric shock from the high voltage portion.

3.Output short-circuit CAUTION

Short-circuit at the output terminal may cause the serious accident by the sparks due to the instantaneous discharge of the output capacitors. Also it may affect the life of the power supply unit.

4.Input inrush current limit circuit CAUTION

A resistor with a thermal fuse is used to limit the inrush serge current into input capacitors at the power switch on. In case of the frequent ON/OFF of the input for the short period, pay attention that the fuse may blow due to the heat from the resistor.

After the input switch is off, leave it for specified period for making the thermal resistor cool down before the input switch is turned on again, in order not to damage not only the input switch by the inrush current but also the power supply.

5.Noise at the power on/off

Low frequency noise may occur at the power input on/off by a input switch or a PS-ON signal. It comes from the low frequency vibration at the transition in choke coil of harmonic correction circuit. During the operation of a power supply (operation and stand by), very low frequency noise might occur due to the low frequency vibration of the choke coil. Both do not affect any characteristics and harm of the life of the power supply .

6.How to handle the output cables

Do not lift or move the power supply unit only by catching the output cable. To lift and move, the main body of the power supply unit must be supported.

Inspection

The power supply unit is inspected based on the inspection criteria (model evaluation., sampling inspection, 100% inspection). Each inspection criteria is shown as follows. Each inspection result is kept at the factory and is not attached on the products unless some special arrangement is made. (It can be supplied upon request at customer's cost.)

Model evaluation : Evaluation test is performed, when it is necessary, before the first lot of production run or the design modification made(model certificate test). Evaluation test is performed based on Class A of our evaluation standard in all specification items.

Sampling inspection : Sampling inspection is performed in each production lot under the room temperature and humidity. Sample inspection is made on all specified items at one time in accordance with JIS Z9015, by normal inspection level 1 and by standard inspection. Size inspection is performed in one unit per production lot. The result is recorded in the test report.

100% inspection : This test is performed to all quantities of each production lot at the room temperature and humidity. All quantities are inspected based on the specified items.

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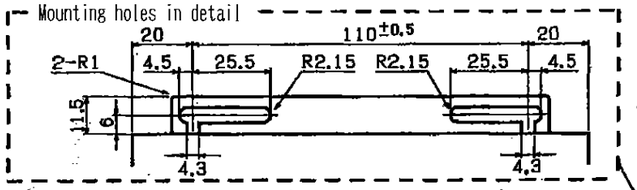
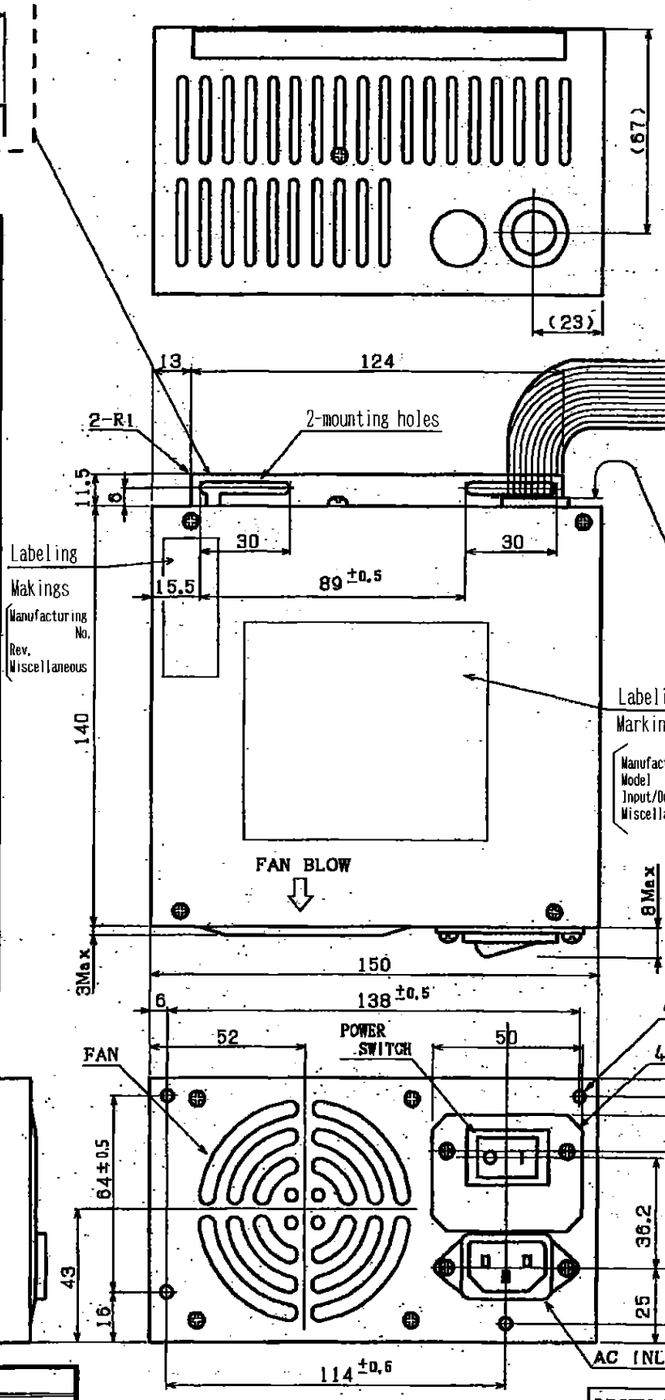
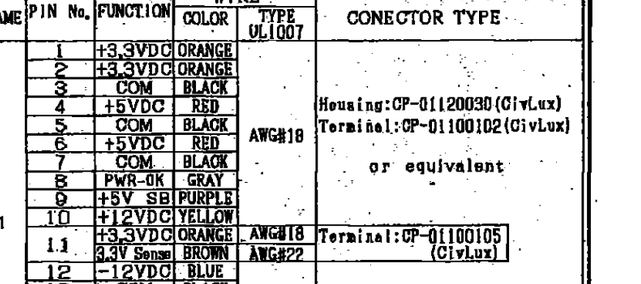
Drawn by	Approved by	Drawing No.	Sheet No.
A-Shirai	A-Takeda	5070-06-4-520	7/7

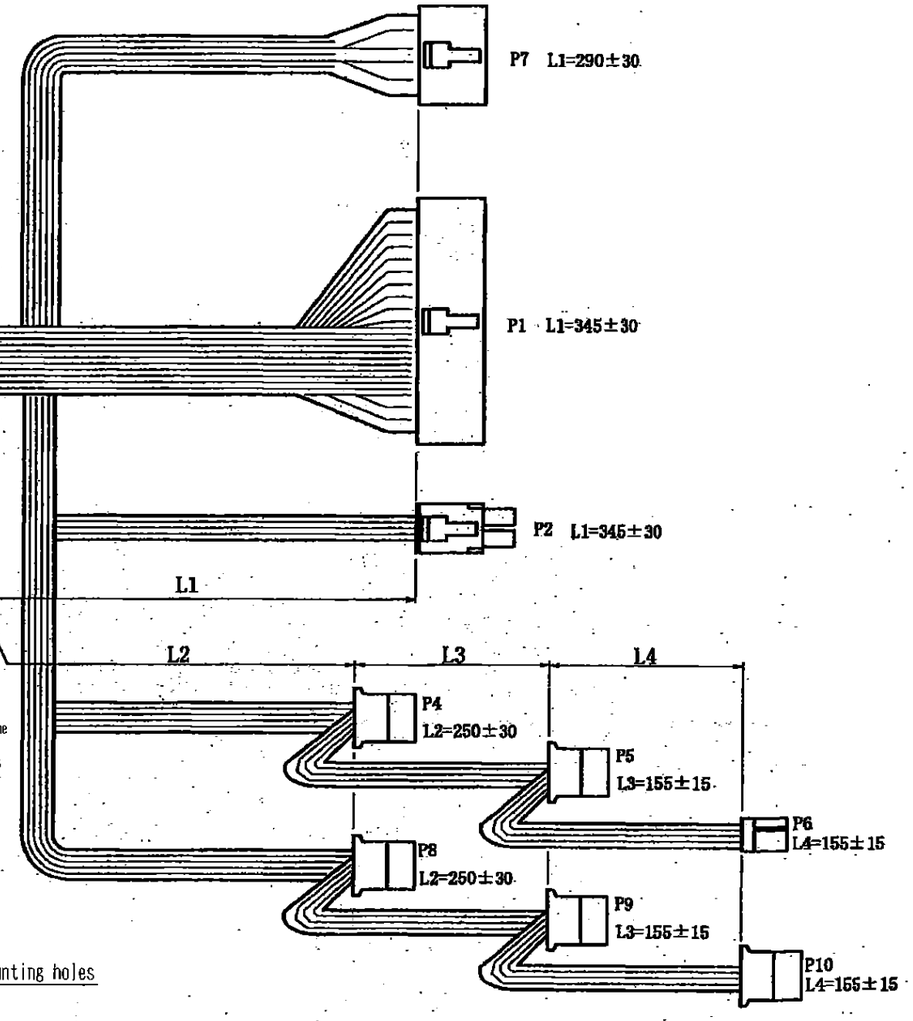
Nipron Co., Ltd.



CN NAME	PIN No.	FUNCTION	WIRE COLOR	WIRE TYPE UL1007	CONECTOR TYPE
P1	1	+3.3VDC	ORANGE	AWG#18	Housing:CP-01120030(CviLux) Terminal:CP-01100102(CviLux) or equivalent
	2	+3.3VDC	ORANGE		
	3	COM	BLACK		
	4	+5VDC	RED		
	5	COM	BLACK		
	6	+5VDC	RED		
	7	COM	BLACK		
	8	PWR-OK	GRAY		
	9	+5V SB	PURPLE		
	10	+12VDC	YELLOW		
	11	+3.3VDC	ORANGE	AWG#18	Terminal:CP-01100105 (CviLux)
		3.3V Sense	BROWN	AWG#22	
	12	-12VDC	BLUE	AWG#18	
	13	COM	BLACK		
	14	PS-ON	GREEN		
	15	COM	BLACK		
	16	COM	BLACK		
	17	COM	BLACK		
	18	-5VDC	WHITE		
	19	+5VDC	RED		
	20	+5VDC	RED		
P2	1	COM	BLACK	AWG#20	Housing:CP-0114030(CviLux) Contact:CP-01100102(CviLux) or equivalent
	2	COM	BLACK		
	3	+12VDC	YELLOW		
	4	+12VDC	YELLOW		
P4,P5 P8,P9 P10	1	+12VDC	YELLOW	AWG#18	Housing: LCP-04(JST) Terminal: SLC22T-2.0(JST) or equivalent
	2	COM	BLACK		
	3	COM	BLACK		
	4	+5VDC	RED		
P6	1	+5VDC	RED	AWG#22	Housing:171822-4(AMP) Terminal:170204-1(AMP) or equivalent
	2	COM	BLACK		
	3	COM	BLACK		
	4	+12VDC	YELLOW		
P7	1	FAN M	WHITE	AWG#22	Housing:5557-06R (molex) Terminal:5556 (molex) or equivalent
	2	FAN C	BLUE		
	3	3.3V SENSE	BROWN		
	4				
	5				
	6				







NAME	TYPE
AC INLET	IEC320 standard type
POWER SWITCH	AJ7211BT(Matsushita) or equivalent
FAN	DC12V 80□(Thermally speed controllable type)

出図
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Tolerance ±1 unless otherwise noted

DROWN BY	CHECK BY	APPROVED BY	SCALE	1/2	MATERIALS	TITLE	PCSA-300P-X2V
金岩	白井	武田	UNITS	%			Mechanical Outline
ISSUED 2005. 03. 22			3RD ANGLE PROJECTION		FINISH	DRAWING NO.	5070-06-3-550

株式会社 ニプロン

西野 雅隆2015/05/28 10:50:14 JST