The specifications are for eNSP-300P-S20-11S, which consists of Power supply eNSP-300P-S20-00S, Nonstop unit BU-300P-24P, and Interface unit SU-RS.
eNSP-300P-S20-11S with battery pack supplies DC output to the load at even AC black out.
*1 is for nonstop unit BU-300P-24P.
*2 is for interface unit SU-RS.

General specifications (As specified at normal temperature and humidity, unless otherwise noted.)

	Item	Specifications	Measuring conditions, etc.
AC input	Rated input voltage	AC100 – 240V	Wide range
	Input voltage range	AC85 – 264V	
	Rated frequency	50 / 60 Hz	Range 47 – 63Hz
	Inrush current	50A peak or less (AC 100V), 100A peak or less (AC 240V)	At rated output and cold start
	Input	330VA or less	At rated input, at continuous and maximum output
		495VA or less	At rated input, at peak output
	Efficiency	68% typ(AC100V), 71% typ(AC240V)	At rated outputs
	Power factor	98% typ(AC100V), 92% typ(AC240V)	
*1 DC input	Rated input voltage	DC24V	Rated input voltage of nonstop unit BU-300P-24P
	Over discharge Voltage	19V typ (Battery circuit shut down)	BU-300P-24P cuts battery line off at this voltage.
	Efficiency	67% typ	Efficiency in nonstop unit BU-300P-24P at rated in/output

Remark

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技術管理

Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Product Specifications

made on October 2, 2002

	Item	Specifications	Measuring conditions, etc.
Environmental specifications	Room temperature	0 – 50℃	Except battery pack. Temperature gradient 15℃/H except 40℃. Output current should be derated to 60% at 50℃.
	Storage temperature	-25 – 70℃	Temperature gradient 15℃/H
	Relative humidity	Operating 10 – 90%, Non operating 10 – 95%	No condensation
	Vibration	At amplitude 0.15mm, frequency 10 – 55Hz, sweep cycle 10, to be endurable for 45 minutes to the each direction of X, Y, and Z.	Conforms to JIS-C-0040-1995
	Shock	At acceleration 150m/s^2, shock-affecting time 11ms, shock is given one time to the each direction of X, Y and Z. No malfunction, damage, slacks, dislocations are seen.	Conforms to JIS-C-0041-1995
Insulation	Dielectric strength	Between AC input and connected FG, DC output and DC input: AC 1.5kV/minute.	
	Insulation resistance	Between AC input and connected FG, DC output and DC input: 50MΩ or more.	DC 500V
	Leak current	0.5mA or less (AC100V)/1mA or less (AC240V)	YEW. TYPE3226 or equivalent(1kΩ)
Others	Line noise immunity	Impulse: ±2kV, Cycle: 10-50ms (Pulse width 100ns, 800ns)	Meet output specification and no faulty operation
	Surge immunity	±2kV common mode (L-FG, N-FG) shall be surged 5 times at 0°, 90°, and 270° respectively not to cause failure.	Conforms to IEC-61000-4-5
	Conducted and radiated emissions	Meet VCCI class B, FCC class B, EN55022 class B	Measured at rated output
	Harmonic correction	Meet IEC61000-3-2 class A, EN61000-3-2 class A	At rated input and output
	Safety standard	UL60950, CSA C22.2 No.60950 EN60950	Approved
	Cooling system	Forced air cooling (Temperature sensing type variable-speed fan motor built in the power supply)	Revolution of fan motor varies upon temperature and load. When PS_ON# is "H", the fan speed is low. (*1) An alarm signal output when the Fan motor stops.
	Product quality grade	Industrial use (FA)	
	Warranty period	One year guarantee after delivery. Repair or replacement at no cost when defect is found due to the manufacture's fault.	To be used at normal condition

Remark

出図 '19.7.23 (株)ニプロン 技術管理

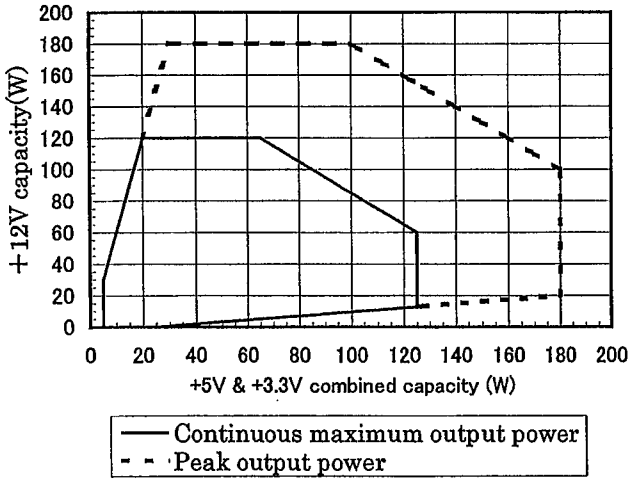
Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Output specifications (As specified at normal temperature and humidity, unless otherwise noted.)

Item			CH1	CH2	CH3	CH4	CH5	CH6 (5VS)	Measuring conditions, etc.
Output rating		Rated voltage (V)	5	3.3	12	-5	-12	5	
		Minimum current (A)	1	0	0	0	0	0	Required minimum load
	Rating	Rated current(A)	14	9.4	7	0.3	0.8	1.5	Total rated output power 203.6W
		Rated output power(W)	70	31	84	1.5	9.6	7.5	
	Continuous maximum rating	Maximum current(A)	21	14	10	0.3	0.8	1.5	Total rated output power 203.6W (Note) Output power distribution is shown as follows.
		Maximum output power(W)	125 or less		120 or less	1.5	9.6	7.5	
			185						
	Peak output power	Peak current(A)	30	28	15	0.3	0.8	2.5	Total peak output power 303.6W within 5 seconds, and interval of 3 minutes or more. For backup operation, the specified battery pack for 300W is used, and battery voltage should be more than DC20V for the battery operation. (Note) Cross distribution of output power carries out as follows.
		Peak output power(W)	180 or less		180 or less	1.5	9.6	12.5	
			280						

Cross distribution of output power

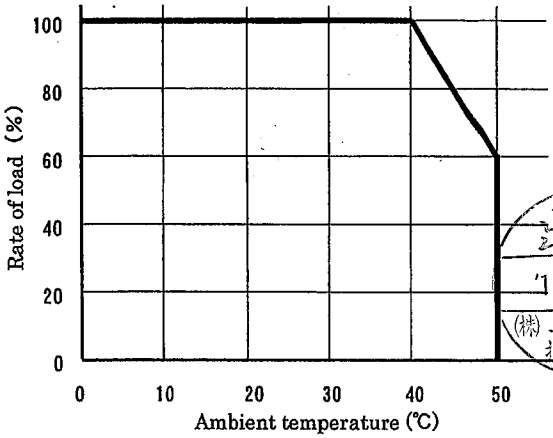
Following chart shows the cross distribution of output power between the sum of +5V & +3.3V and +12V.



Output power distribution chart

Output rating to ambient temperature

In case of exceeding 40℃ at ambient temperature (at air inlet), output power should be derated as shown below.



Output current and output power rating chart

Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Product Specifications

made on October 2, 2002

Item		CH1	CH2	CH3	CH4	CH5	CH6 (5VS)	Measuring conditions, etc.
Output characteristics	Set voltage at shipping: Voltage (V)	5.05	3.3	12.0	-5.0	-12.0	5.0	At AC100V input (3-terminal-regulator is used each for -5V, -12V, and 5VS output)
	Set voltage at shipping: Accuracy(%)	±1	±1	–	–	–	–	
	Set voltage at shipping: Current(A)	Rated current						
	Regulation(%)	±4 or less	±4 or less	±10 or less	±5 or less	±5 or less	±5 or less	Total of the regulations under full range of temperature, input and load conditions, and also under the distribution chart.
	Maximum ripple voltage (mV_{p-p})	50 or less	50 or less	150 or less	50 or less	100 or less	50 or less	Lead wire is connected to the output connectors and measured with 47uF across the measurement points.
	Maximum spike voltage (mV_{p-p})	100 or less	100 or less	200 or less	100 or less	200 or less	100 or less	
	Dynamic load fluctuation (mV)	100 or less	100 or less	–	–	–	–	+12V output only varies from 50% to 100% of peak load and others are rated load.
	Over current protection(A)	37 or more	32.5 or more	16 or more	105% or more of the peak current			If one of O.C.P on CH1, 2, &3 works, all outputs except CH6 stop. (*1)For backup operation, if one of O.C.P on CH1, 2, &3 works, all outputs stop.
	Recovery	Recovery is made by resupplying AC or PS_ON# signal to "H". (*1) Note that recovery from backup operation is made by resupplying AC only.			Auto-recovery			(*1) Regarding CH6 at the backup operation, it recovers by resupplying AC.
	Over voltage protection(V)	5.74 – 7.0	3.76 – 4.3	13.4 – 15.6	–	–	–	Recovery is made by resupplying AC or PS_ON# signal to "H". (*1) Note that recovery from backup operation is made by resupplying AC only.
	Rise time	Within 100ms						Rise time is from 10% to 90% of output.
	(*1) Charge voltage	27.3V typ (Full of charge with temperature compensation at 25℃)						The charge is made through Backup unit (BU-300P-24P) to specified battery pack (Lead acid battery) at AC input operation.
	(*1) Charge current	0.5±0.2A (Battery voltage at 24V)						

Remark

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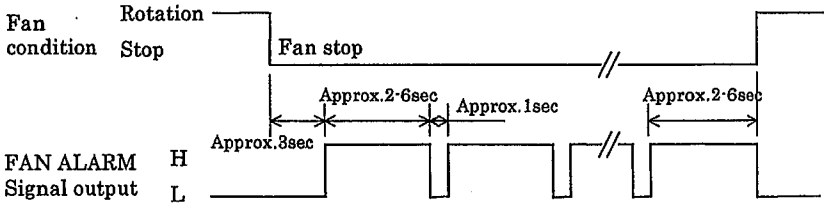
Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Signal input/output specifications (As specified at normal temperature and humidity, unless otherwise noted.)

	Item	Specifications
Input signal	Output ON/OFF control (PS_ON#)	At the "H" or "Open", CH1 – 5 outputs stop. (*1) Battery does not supply at "H" or "Open" signal at battery backup operation.
	+3.3V SENSE	Sensing terminal for +3.3V. It compensates line drop by connecting to load.
	(*1) Battery shut down signal (TTL level) (SHUT DOWN_T)	Battery does not supply at "L". (need for 5ms or more) (It is for battery backup operation only.)
	(*1+*2) Battery shut down signal for RS232C (SHUT DOWN_R)	Battery does not supply at +2.4V or more. (need for 5ms) (It is for battery backup operation only.)
Output signal	+5VS	PS_ON# signal is nothing related with AC operation. (*1) At the backup operation, It stops when a PS_ON# signal is "H" or "OPEN". (*1) When AC input stops, +5VS stops at "H" or "open" of PS_ON# signal.
	Output OK signal (PWR_OK)	When CH1 (+5V) output is normal, it is "H". (Detect delay time: 200 – 400ms)
	(*1) AC failure signal (TTL level) (AC FAIL_T)	When AC input is too low or failure, it is "H". (Detecting time is 20 – 500ms which is depends upon output power.)
	(*1+*2) AC failure signal for RS232C (AC FAIL_R)	When AC input is too low or failure, it outputs -9V(typ). (Detecting time is 20 – 500ms which is depends upon output power.)
	(*1) Battery low signal (TTL level) (BATT LOW_T)	When battery voltage is lower than 20V(typ), it outputs "H". (If the battery pack is not connected to the backup unit, it outputs "L".)
	(*1+*2) Battery low signal for RS232C (BATT LOW_R)	When battery voltage is lower than 20V(typ), it outputs –9V(typ). (If the battery pack is not connected to the backup unit, it outputs +9V(typ).)
	(*1) Fan alarm signal (FAN ALARM)	When a fan stops, it outputs signal as shown below. 

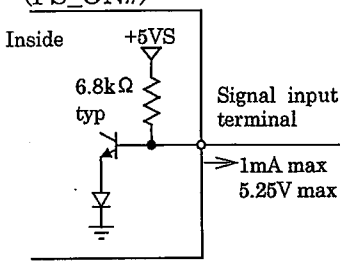
Remark

出図 '19. 7. 23 (株)ニプロン 技術管理

Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

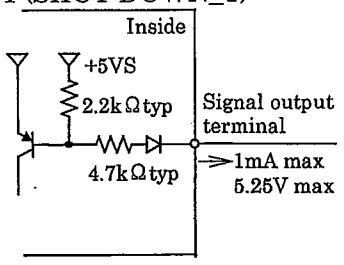
Signal input circuit (P1,P12)

(PS_ON#)



("L"≦0.8V, 2.0V≦"H")

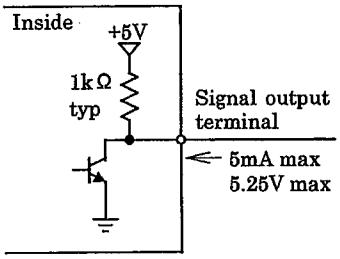
*1 (SHUT DOWN_T)



("L"≦0.4V, 2.4V≦"H")

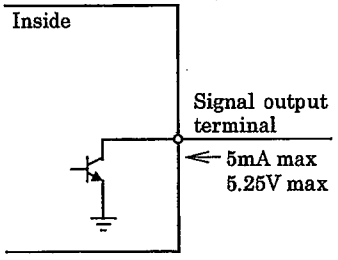
Signal output circuit (P1,P12)

(PWR_OK)



("L"<0.4V)

*1 (AC FAIL_T,BATT LOW_T, FAN ALARM)



("L"<0.4V)

Sequence signal pin assignment

CN No.	Pin No.	Cable color	Signal
P1	8	Gray	PWR_OK
	9	Purple	+5VS
	11	Brown	+3.3V SENSE
	14	Green	PS_ON#
P12	1	Black	COM
	2	Yellow	SHUT DOWN_T
	3	Blue	AC FAIL_T
	4	White	BATT LOW_T
	5	Orange	NC
	6	Purple	FAN ALARM
DSUB	1	——	BATT LOW_R
	4	——	SHUT DOWN_R
	8	——	AC FAIL_R

·DSUB signal level is compatible with the ADM232AARN(Analog Devices).
·GND is common to power output GND.

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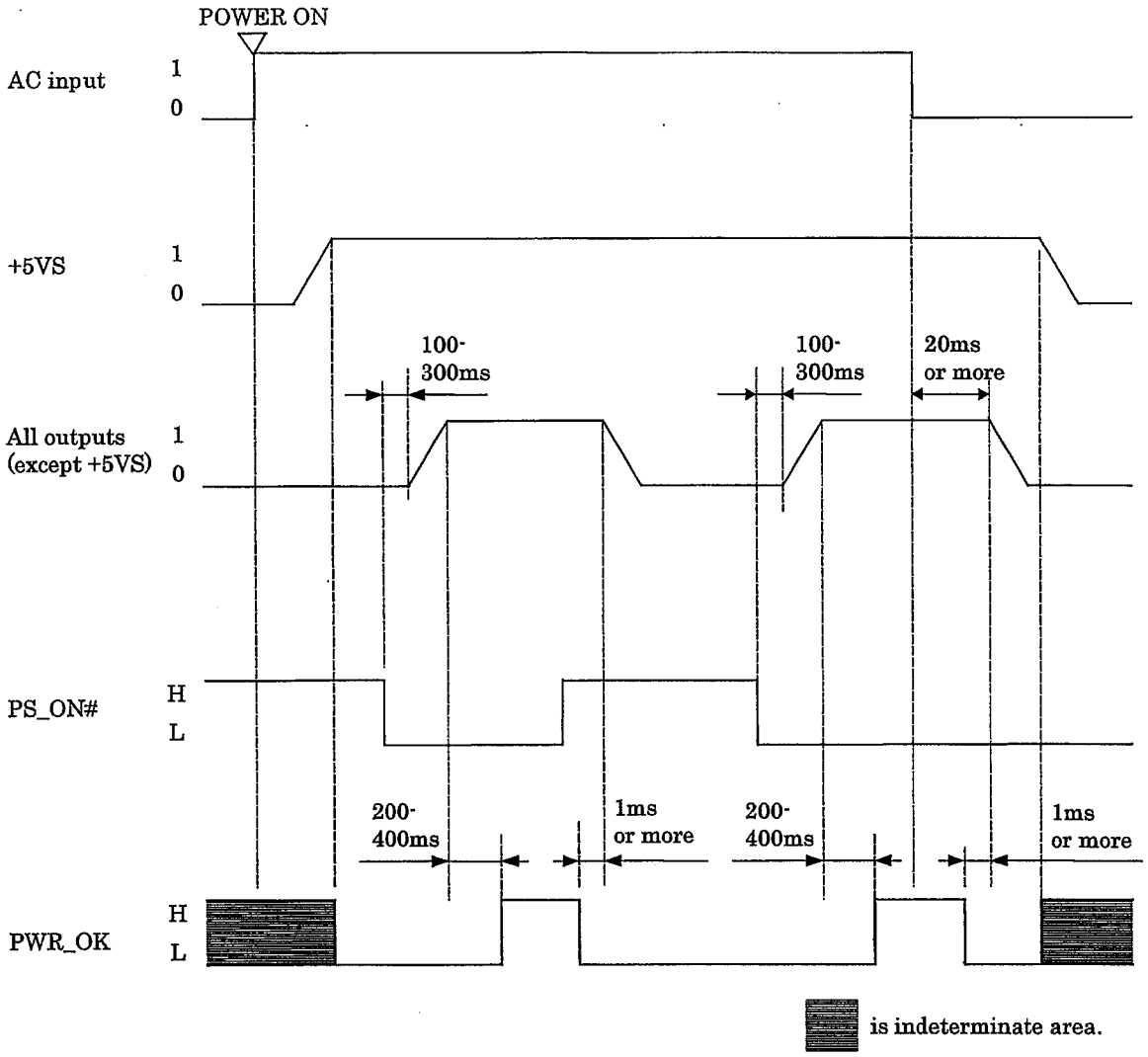
Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Signal input/output specifications (As specified at normal temperature and humidity, unless otherwise noted.)

Signal input/output specifications (Without battery backup unit and battery pack)



Remark

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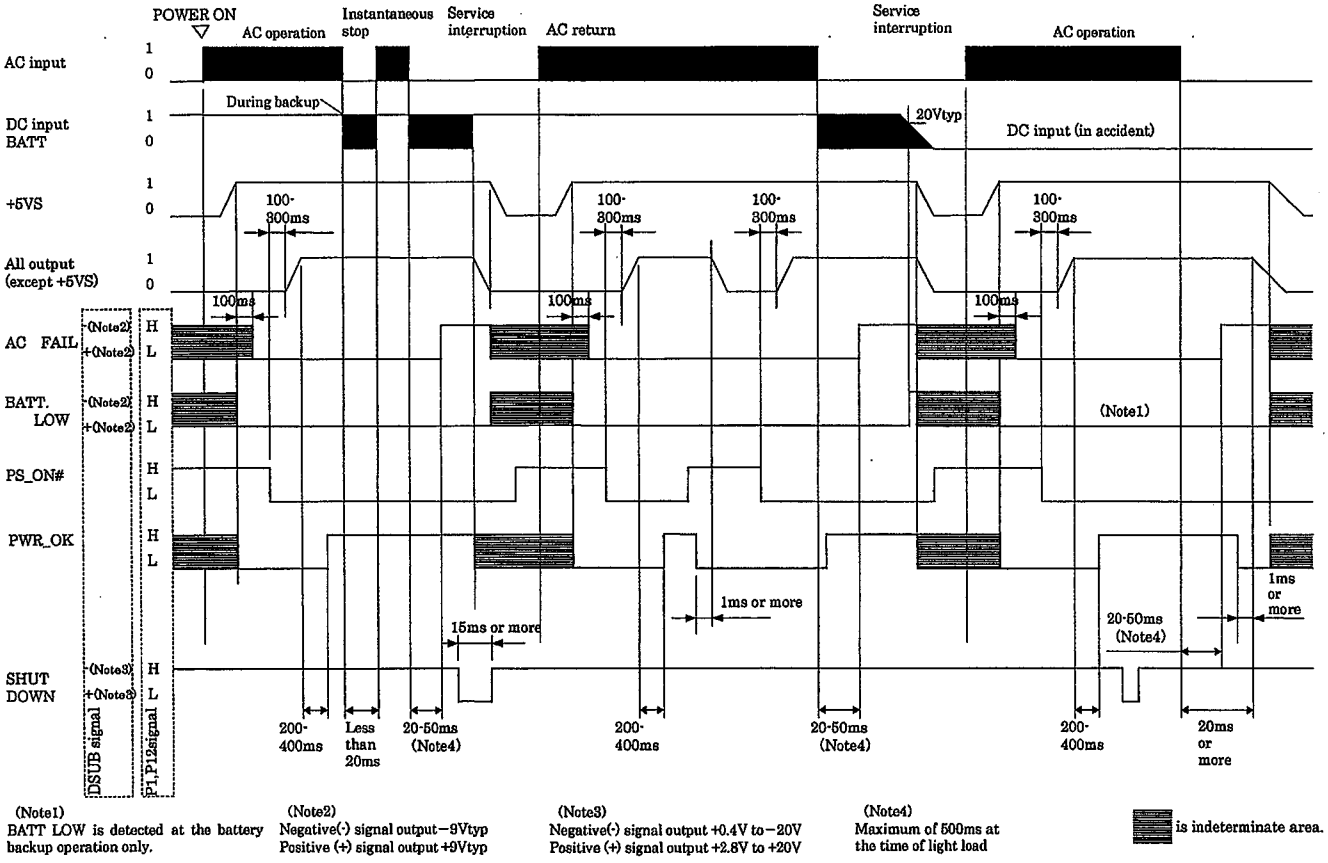
Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

Signal input/output specifications (As specified at normal temperature and humidity, unless otherwise noted.)

(*1+*2)

Signal input/output specifications (With Backup unit BU-300P-24P, Signal interface unit SU-RS, and an exclusive battery pack)



(Note1) BATT LOW is detected at the battery backup operation only.

(Note2) Negative(-) signal output −9Vtyp Positive (+) signal output +9Vtyp

(Note3) Negative(-) signal output +0.4V to −20V Positive (+) signal output +2.8V to +20V

(Note4) Maximum of 500ms at the time of light load

is indeterminate area.

(The use of Windows 2000)

When UPS service and other service programs from Windows 2000 are used, Windows 2000 does not output SHUT DOWN signal to the power supply for power supply shutdown after the OS of PC closed under backup operation. It is recommended for the use of Windows 2000 that the customer can make power supply shutdown by REMOTE OFF, under the backup operation, by using of APM (Advanced Power Management) or ACPI (Advanced Configuration and Power Interface: Auto-stop at OS closing) function.

In this case, it is recommended that a cable (PS2601-02 by Nipron) is used in order to avoid mis-operation by a signal from Windows 2000 when AC fails during the start of PC.

The cable (PS2601-02) uses pin #1 for BATT LOW and pin #8 for AC FAIL and the rest of pins except pin #4 for SHUT DOWN is no connection.

(Note)

At AC operation, the mis-operation does not occur because the power supply does not receive SHUT DOWN signal.

Notes on use

1. Grounding ⚠Warning
   This power supply unit is manufactured as Class I apparatus. The earth terminal has to be grounded by an appropriate method for the purpose of security.
2. Electric shock ⚠Warning
   This power supply unit is integrated type device. An appropriate method has to be taken at the installation to avoid the electric shock from the high voltage portion.
3. Output short-circuit ⚠ Caution
   Short-circuit of the output terminal may cause the serious accident by the sparks due to the instantaneous discharge of the inside capacitors. It may affect the life of this power supply unit, too.
4. Input inrush current limit circuit ⚠ Caution
   The power thermistor is used to limit the surge current into the input capacitor at AC input. Switch on again after 60 seconds or more time passed, because excessive surge current flows when AC input switch is on before the power thermistor get cool down.
5. Noise at the power ON/OFF
   Low frequency sound noise may occur at the power input and power ON/OFF by the PS-ON signal. This is due to the low frequency vibration at the transition of choke coil used for the countermeasure of high harmonic wave. It will not affect the characteristics and life of the power supply unit.
6. How to handle the output cables
   Do not take and move the power supply unit by catching the output cable only. To transport and to move, the main body of the power supply unit must be held.

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Drawn by	Checked by	Approved by	Model No.	Drawing No.
E. Tanaka	N. Yamamoto	Y. Matsubara	eNSP-300P-S20-11S	2722-03-4-520

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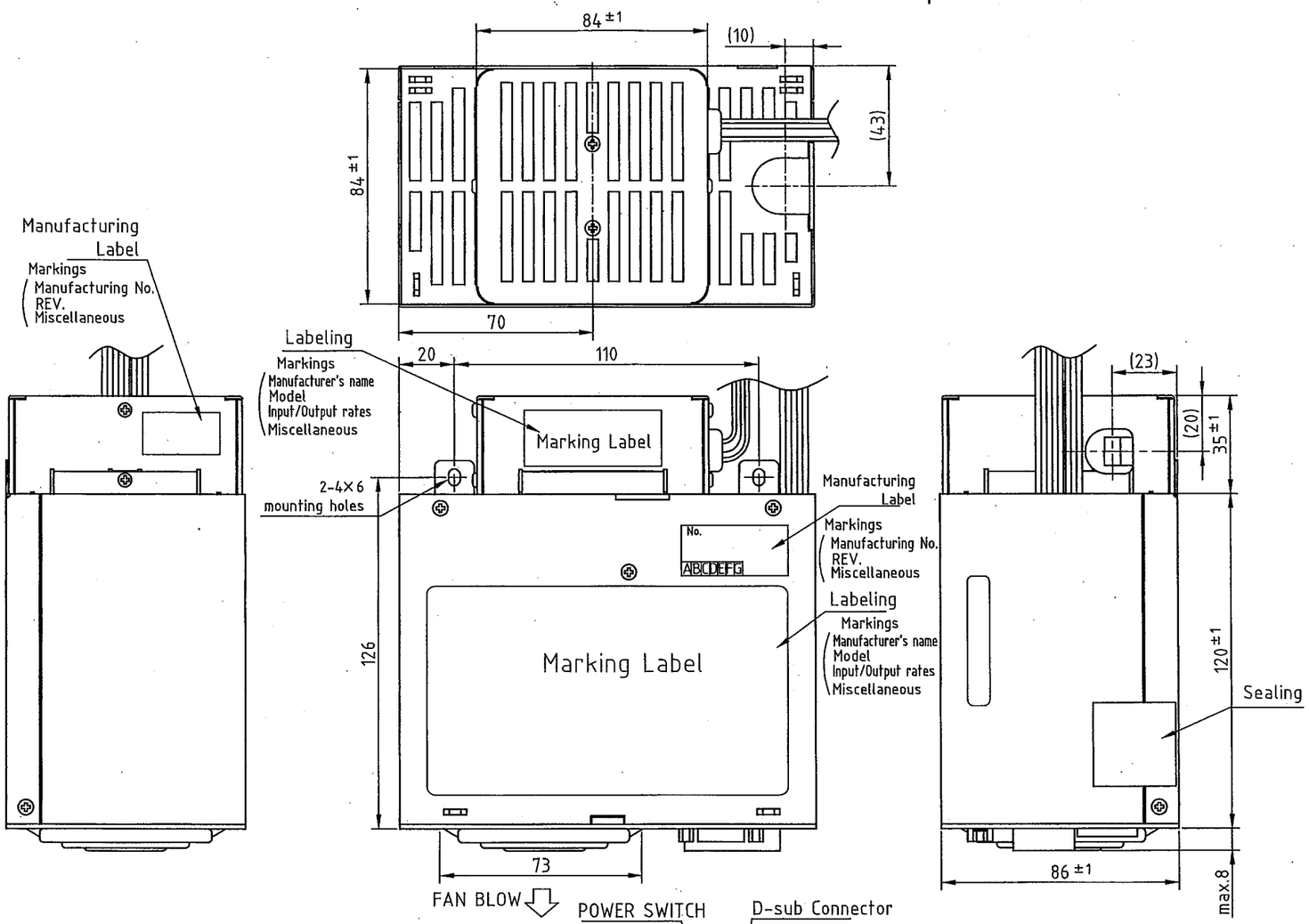
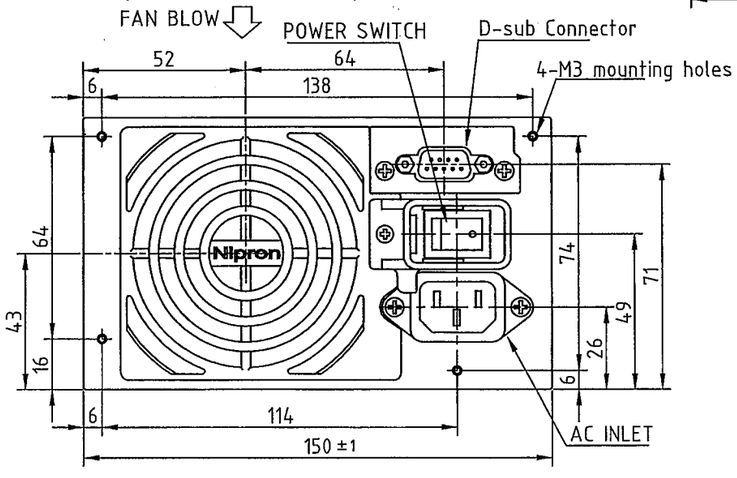
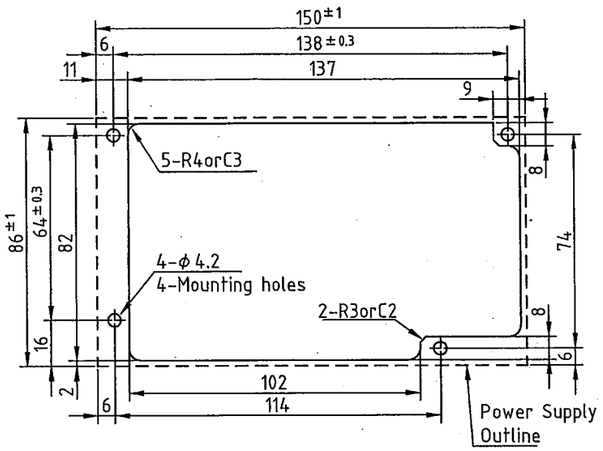


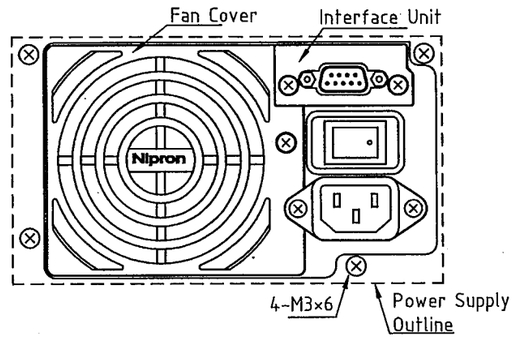


NAME	TYPE
AC INLET	IEC320Standard type
POWER SWITCH	A8L-21-12N2(OMRON) or equivalent
FAN	DC12V 80□
D-sub conector	JEY-9P-1A0A(JST) or equivalent

Tolerance ±0.5 unless otherwise noted

Recommended a installation hole and 4mounting holes





Installation hole and mounting screw holes(4pcs) are required, if replacement of a fan and to add or replace interface unit are necessary under the installed power supplr on the personal computer case.

出図 '19.7.23 (株)ニプロン 技術管理

DRAWN BY	CHECKED BY	CHECKED BY	APPROVED BY	SCALE		MATERIALS	TITLE	eNSP-300P-S2✱-11
Yodo	山本	今西	総原	UNITS	m/m			Mechanical Outline
ISSUED	2002. 10. 3			3RD ANGLE PROJECTION		FINISH	DRAWING NO.	2722-01-3-550

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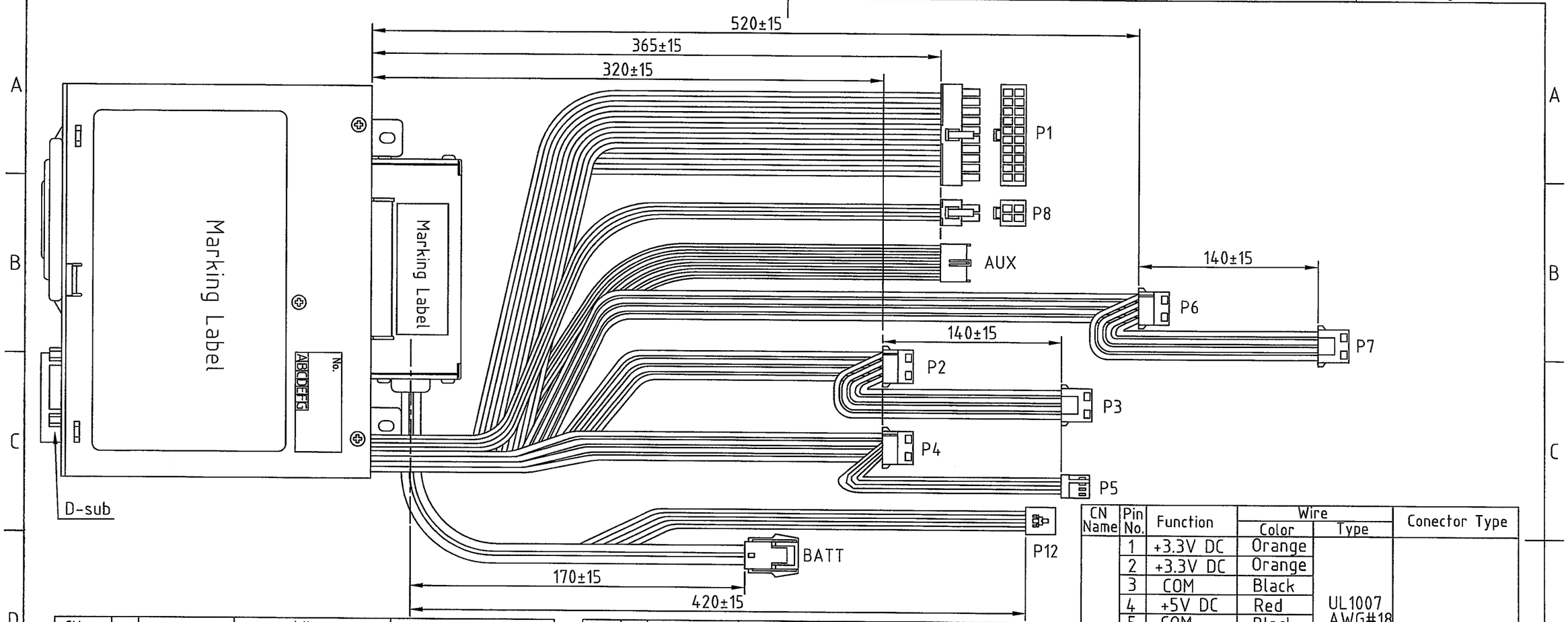

CN Name	Pin No.	Function	Wire Color	Wire Type	Conector Type
P2~P4 P6,P7	1	+12V DC	Yellow	UL1007 AWG#18	Housing:1-480424-0 (AMP) Terminal: 170120-1(AMP) or equivalent
	2	COM	Black		
	3	COM	Black		
	4	+5V DC	Red		
P5	1	+5V DC	Red	UL1007 AWG#22	Housing: 171822-04(AMP) Terminal: 170204-1(AMP) or equivalent
	2	COM	Black		
	3	COM	Black		
	4	+12V DC	Yellow		
P8	1	COM	Black	UL1007 AWG#18	Housing: 5557-04R(molex) Terminal: 5556(molex) or equivalent
	2	COM	Black		
	3	+12V DC	Yellow		
	4	+12V DC	Yellow		
AUX	1	COM	Black	UL1007 AWG#18	⚠ Housing: 90331-1001(molex) Terminal: 8993-08-50-0277 (molex) or equivalent
	2	COM	Black		
	3	COM	Black		
	4	+3.3V DC	Orange		
	5	+3.3V DC	Orange		
	6	+5V DC	Red		

⚠ In the case of connection the housing 90331-1001 (or similar goods) to Header, 15-48-0412(or similar goods), removing of the Pin enables to avoid incorrect insertion is necessary.

CN Name	Pin No.	Function	Wire Color	Wire Type	Conector Type
P12	1	COM	Black	UL1007 AWG#22	Housing: 51030-0630(molex) Terminal: 50084-8114(molex) or equivalent
	2	SHUT DOWN	Yellow		
	3	AC FAIL	Blue		
	4	BATT LOW	White		
	5	N.C.	——		
	6	FAN ALARM	Purple		
BATT	1	BATT +VE	Red	UL1015 AWG#14	Housing: VLR-02V(JST) Terminal: SVM-61T-P2.0(JST) or equivalent
	2	BATT -VE	Black		

	Pin No	Function	Conector type
D-sub	1	BATT LOW	JEY-9P-1A0A (JST) or equivalent
	2	N.C.	
	3	N.C.	
	4	SHUT DOWN	
	5	N.C.	
	6	N.C.	
	7	N.C.	
	8	AC FAIL	
	9	N.C.	

CN Name	Pin No.	Function	Wire Color	Wire Type	Conector Type
P1	1	+3.3V DC	Orange	UL1007 AWG#18	Housing 5557-20R (molex) Terminal 5556(molex)
	2	+3.3V DC	Orange		
	3	COM	Black		
	4	+5V DC	Red		
	5	COM	Black		
	6	+5V DC	Red		
	7	COM	Black		
	8	PWR-OK	Gray	UL1007 AWG#22	
	9	+5V SB	Purple	UL1007 AWG#18	
	10	+12V DC	Yellow		
	11	+3.3V default sense	Brown	UL1007 AWG#22	
		+3.3V DC	Orange	UL1007 AWG#18	
	12	-12V DC	Blue		
	13	COM	Black		
	14	PS-ON#	Green	UL1007 AWG#22	
	15	COM	Black	UL1007 AWG#18	
	16	COM	Black		
	17	COM	Black		
	18	-5V DC	White		
	19	+5V DC	Red		
	20	+5V DC	Red		

出図 '19. 7. 23 (株)ニプロン 技術管理

⚠2:2017.11.07 M.Okudaira I-290712C

DRAWN BY	CHECKED BY	CHECKED BY	APPROVED BY	SCALE		MATERIALS	TITLE	eNSP-300P-S2✱-11✱
Yodo	Ishibashi	Yamada	Yamamoto	UNITS	m/m	——		Cable Specification
ISSUED	2002. 10. 3			3RD ANGLE PROJECTION		FINISH ——	DRAWING NO.	2722-01-3-551 A

Nipron Co.,Ltd.