esktop PC Power Supply HNSP9-520P-S20 Series

80PLUS & ErP Directive Compliant. Low Power Consumption and High Efficiency Nonstop Power Supply Available ! ErP Directive Standby power 1W max. RoHS **Directive** HNSP9-520P-S20-H1V Standby Power (nonstop power supply) at 100 VAC at 230 VAC Peak Power ontinuous Max 0.65W 55 BRONZE Model Description Stock HNSP9-520P-S20-H1V With RS232C signal unit Standard stock HNSP9-520P-S20-H2V With buzzer unit Contact us HNSP9-520P-S20-H6V With USB signal unit Standard stock HNSP9-520P-S20-H0V No signal unit Standard stock 8. Type of signal unit (1: RS232C signal unit, 2: buzzer unit 6: USB signal unit, 0: no signal unit) 0. Client target Model Name Coding 4. Standard 1. Series name Output power
Peak output compliant DC input voltage (battery voltage) 24V type
Modification code HNSP9 - 520 P - S 2 0 - H * V Modification code
Nonstop circuit embedded 9. Silent type (thermal-sensing variable speed fan embe 1 2 3 4 5 6 7 8 9 Features • With backup function, it protects your PC from blackout. • 80PLUS BRONZE certified ATX power supply • Double-sided PCB with plated through hole suitable for industrial use. · High efficiency with synchronous rectification circuit • Min. load current is 0A for all outputs. • Safety standard certified (IEC/UL/CSA60950-1/CCC) • By building in the thermal-sensing variable speed fan, noise reduction can be realised. • Less than 1W standby power complying with ErP directive

Additional output unit can be fitted



By connecting the optional output unit on HNSP9-520P-S20-H*V, +24V or +48V can be output from isolated ATX outputs simultaneously. Refer to the output specification below.

Output / Dimensions (with additional output unit)

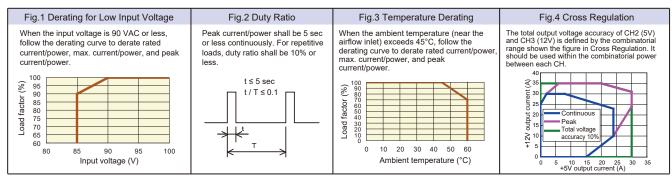
Model	HNSP9-520P-S20-H*V-24V				V	HNSP9-520P-S20-H*V-48V					V	
Output voltage	+3.3V	+5V	+12V	-12V	+5VSB	+24V	+3.3V	+5V	+12V	-12V	+5VSB	+48V
	20A	24A	25A	0.5A	2.0A	8.3A	20A	24A	16.5A	0.5A	2.0A	4.0A
Max. current / max. power	150	WC	300W	6W	10W	200W	150	W	198W	6W	10W	192W
(continuous)	300W			1000	20000		199	.1W		1000	19200	
·	400W					305.1W						
-	30A	30A	35A	0.5A	2.5A	12.5A	30A	30A	35A	0.5A	2.5A	4.0A
Peak current / peak power	200	WC	420W	6W	12.5W	300/W	200W		200W 420W 6W		12.5W	102\/
(5 sec max.)	507.5W				12.5**	30000	507.5W				192.00	
(520W				52		52	520W		
Min. current	0A	0A	0A	0A	0A	0A	0A	0A	0A	0A	0A	0A
Dimensions		150(W)×86(H)×175(D)mm										

Refer t	o "Produc	t Page Gu	uideline" o	n p.11	
Safety standard / Approval	UL	CSA	EN	CE	CCC
Reliability Grade	HFA	FA	HOA	OA	
Function					
DC start 232C USB	Π	PFC	5VSB FAN	FAN Coni	
*RS232C: only HNSF *USB: only HNSP9-5					
Automatic shutdo	own com	pliant OS	6		
Windows 2000	Windows	XP Wir	ndows Vista	a) Wind	dows 7
Input					
AC input	85 - 264	V (world	wide rang	e, PFC r	nounted)
DC input		dicated b			
*Battery package is o					
Output					
Output voltage	+3.3V	+5V	+12V	-12V	+5VSB
	20A	24A	30A	0.5A	2A
Max. current / max. power (continuous)	Total	150W	360W	6W	10W
			<u>390W</u> Total 400W	1	
	30A	30A	35A	0.5A	2.5A
Peak current /	Total	200W	420W	6W	12.5W
peak power (5 sec max.)			07.5W		12.000
A dire as unseend	0.4		Total 520W		0.0
Min. current	0A	0A	0A	0A	0A
Dimensions					
W×H×D (mm)	150×86	×140 (PS	/2 size)		
Output connector	(option	al compo	onent)		
Main 20+4pin 20pin 0 10 10 10 10 10 10 10 10 10 10 10 10 1		12V 4pin H	PCI-E 6pin H		

Refer to p.17 "Detachable Output Harness" for details

General Specification Condition: at normal temperature and humidity unless otherwise specified

Open Open Proce Product (100 VAC), 200 VAC), "Characteristic cells: Fig.9 At ratio input/output At ratio input/output Instruct 31 A peak (100 VAC), 21 A peak (240 VAC). "Characteristic cells: Fig.9 At ratio input/output and set and sale (250). In the respective of cells and peak (240 VAC). "Characteristic cells: Fig.9 At ratio input/output and set and sale (250). In the respective of cells and peak (240 VAC). "Characteristic cells: Fig.9 Index Voltage 24 VDC (corresponds to declared salety peakage) At ratio input/output Index Voltage 24 VDC (corresponds to declared salety peakage) At ratio input/output Reter Voltage (Aurent) 30% hg +12V		Items		Specificatio	on				Measurement conditions, etc.
Performance 50:7014 47:681 47:681 47:681 Prover Factor 995 min. (100 VAC). 895 mp. (240 VAC) "Characteristic data: Fig.5 At note impair/optical APULIS BROADE: Prover Factor 995 min. (100 VAC). 895 mp. (240 VAC) "Characteristic data: Fig.5 At note impair/optical and ever (270 min. 100 VAC). 895 mp. (240 VAC) "Characteristic data: Fig.5 Injuit Current 4.84 kpc. (100 VAC). 21.4 kpc. (240 VAC) "Characteristic data: Fig.5 At note impair/optical and ever (270 min. 100 VAC). 21.4 kpc. (240 VAC) "Characteristic data: Fig.5 Injuit Current 4.84 kpc. (100 VAC). 21.4 kpc. (240 VAC) "Characteristic data: Fig.5 At note impair/optical and ever (240 Min. 100 VAC). Injuit Current 4.84 kpc. (100 VAC). 21.4 kpc. (240 VAC) "Characteristic data: Fig.5 At note impair/optical and ever (240 Min. 100 VAC). Injuit Current 4.84 VOIL (200 VAC). 21.4 kpc. (240 VAC) "Characteristic data: Fig.5 At note impair/optical and ever (240 Min. 100 VAC). Injuit Current 4.80 VIII (200 VIII) At note impair/optical and ever (240 Min. 100 VIII) At note impair/optical and ever (240 Min. 100 VIII) Injuit Current 1.00 Nin. 1.00 Nin. 1.00 Nin. 1.00 Nin. 100		Rated Voltage		100 - 240 VA	AC (85* - 264 VAC)				Worldwide range, *Refer to Fig.1
Proof Enderson_ 99% bp: (100 VAC), 69% bp: (240 VAC) * Characteristic data: Fg.3 At rated input/output. Proof Enderson At rated input/output. At rated in			V		- ()				
By Device Factor 06% min. (100 VAC), 00% min. (44/ VAC) Characteristic data: Fg.0 At rated inquicinguitat At rated inquicinguitat By Device Factor 37,4 pask. (100 VAC), 21.6,1 pp. (240 VAC) Characteristic data: Fg.0 The mail assert of the Casa attributed in the factor of the Casa attributed in the Sector of the Casa attributed in a specified unless is period in more flag By Device Factor 24 VOC (corresponds to conditional statery grackage) At rated input/output At rated input/output Barley Clearange Clarif Voltage 24 VOC (corresponds to conditional statery grackage) At rated input/output At rated input/output Read Voltage 24.00 20.00 26.00 25.00 20.00 Max. Current / Power 30.0 30.4 35.4 25.4 20.00 Min. Current 30.4 30.4 30.4 0.6 0.4 0.4 Min. Current 30.4 30.4 0.6 0.4	A			80% typ. (10	0 VAC), 85% typ. (240	At rated input/output, 80PLUS BRONZE certified			
Product Current	<u> </u>	Power Factor		96% min. (10	00 VAC), 90% min. (24	0 VAC) *Characte	ristic data: Fig.6		At rated input/output
Constraint Constraint <thconstraint< th=""> Constraint Constrai</thconstraint<>	put	Inrush Current		31A peak (10	00 VAC), 75A peak (24	0 VAC) *Characte	ristic data: Fig.7		At rated input/output at cold start (25°C). The inrush current into X-capacitor of input noise filter is not specified unless its period is more than 100µs.
Processor Processor <t< td=""><td></td><td>Input Current</td><td></td><td>4.8A typ. (10</td><td>0 VAC), 2.1A typ. (240</td><td>VAC) *Characteri</td><td>stic data: Fig.5</td><td></td><td></td></t<>		Input Current		4.8A typ. (10	0 VAC), 2.1A typ. (240	VAC) *Characteri	stic data: Fig.5		
Pip Balancy Decknage Cut-Of Volga TV Up, (alubber of table y carult) At table input/output Plant Retert Voltage 60% by 450 V +50/V -120/V -60/SB Plant Current / Power 10A 10A 25A 0.5A 2A Plant Current / Power 20A 30A 0.5A 2A Plant Current / Power 20A 30A 0.5A 2A Park Current / Power 20A 30A 0.5A 2A Min. Current 0A 0A 0A 0A Max. Rigbe Voltage (mVp-p) 100 max 120 max 120 max 100 max Max. Rigbe Voltage (mVp-p) 100 max 100 max 170 max 100 max 100 max Max. Rigbe Voltage (mVp-p) 100 max 100 max 170 max 100 max 100 max Max. Rigbe Voltage (mVp-p) 100 max 170 max 170 max 100 max 100 max Max. Rigbe Voltage (mVp-p) 100 max 170 max 170 max 100 max 100 max	8	Rated Voltage		24 VDC (cor	responds to dedicated	battery package)			
Parted Voltage +3.3V +9.V +1.2V 1.7V -1.9V3B Rated Voltage 10.0A 10.4 25.A 5.A 2.A Refere out a diright measurement of publicity Max. Current / Power 20.0A 2.4A 30.0A 0.5A 2.A Max. output power. 600W 900W max. 900W max. 0.0W 100W Refere to Fig.1 Max. output power. 500W 900W max. 420W max. 100W Refere to Fig.2 Peak output power. 500W 100W max. 500 max. 50.0 max. 100 max. 100 max. 100 max. 110 Max. Epipe Voltage (mVp-p) 50 max. 50 max. 100 max. <td>-The second seco</td> <td></td> <td>• •</td> <td></td> <td>utdown of battery circuit</td> <td>t)</td> <td></td> <td></td> <td></td>	-The second seco		• •		utdown of battery circuit	t)			
Population 10A 10A 25A 0.5A 2A Marcs sub aring to measured rejurity Max. Current / Power 20A 2AA 30A 0.5A 2A Max. current / Power Max. current / Power Post Current / Power Po	Ħ								At rated input/output
Max. Current / Power 20A 24A 30A 0.5A 2A Max. cutput power: 400W 900 190W max 300W max 0W 10W Ref to Fg.1 900 Peak Current / Power 30A 30A 35A 0.5A 2.5A 90W max 420W max 10W Peak output power: 50W Peak output power: 50W 10 Current / Power 30A 30A 35A 0.5A 2.5A 11 Total Voltage Accurrent (%) 25 max 55 max 12 max 100 max 000 max 00 max 0.4 adddddddddddddddddddddddddddddddddddd		-							
Opposite 150W max 300W 0.W 10W "Refer to Fig.1 Park Current / Power 30A 35A 0.5A 2.5A Park output power: 520W Park Current / Power 30A 35A 0.5A 2.5A Park output power: 520W Min Carrent DA 0A 0A 0A 0A Park output power: 520W Min Carrent / Max Right Accuracy (%) 45 max 45 max 45 max 45 max 45 max 15 max 15 max 76 max The server are coming on thom the output max of the comput power: 520W Max Right Charge (MV-p) 100 max 100 max 120 max 120 max 15 max 45 max 25 max The server are coming on thom the output max of the comput power are coming on thom the output max of the comput power are coming on thom the output max of the comput power are coming on thom the output max of the comput power are coming on thom the output max of the comput power are coming on the comput power are comput power are coming on thom the output max of the comput power are comput power are coming on thom the output max of the comput power are comput powere comput power are compo									
Open International and the set of the		Max. Current / F	Power						
Opp accurate / Power				1			677	1000	
Op/ Park Current / Power 30A 33A 0.5A 25A Park output power: 5200 With Section 100 max. Park output power 100 max.					390W				
Open 200W max 420W 6W 12.5W Three 5 also in plass Min. Current 0A 0A 0A 0A 0A 0A 0A Part of the set of th		Book Current / /	Power	304	30 \		0.54	2.54	Reak output power: 520W
Image: Current Total Voltage Accuracy (%) South State St	2		Fower						Time: 5 sec or less
Image: Current Total Voltage Accuracy (%) South State St	put			2		-	000	12.500	
Production DA DA <thda< th=""> DA DA <</thda<>					507.50				
Production 15 max 15 max 15 max 15 max 16 max 17 movine seconing out from the output and connected into one at the edge, 4/p-1 (prediction and outputs) Max. Splaw Voltage (mVp-p) 100 max. 100 max. 170 max. 170 max. 100 max. <td< td=""><td></td><td>Min Current</td><td></td><td>٥Δ</td><td>۵۵</td><td></td><td>04</td><td>04</td><td></td></td<>		Min Current		٥Δ	۵۵		04	04	
Max. Ripple Voltage (mVp-p) 50 max. 50 max. 120 max. 120 max. 50 max. Max. Spike Voltage (mVp-p) 100 max. 100 max. 170 max. 170 max. 100 max. Overcurrent OCP Point (A) 22 min. 31 min. 37 min. Short potection 3.3V.5 ymax. 33.4V.5 ymax. 33.4V.5 ymax. 100 max. 3.4V.5 ymax. 100 max. 100 max. 100 max. 100 max. 100 max. 100 max.			ccuracy (%)						*Refer to Fig 4
Max. Spike Voltage (mV-p) 100 max. 170 max. 170 max. 170 max. 100 max. and connected into one at the edge. 47p-170 max. Overcurrent Potection OCP Point (A) 27 min. 31 min. 37 min. Short protection 33V 55 max. Short protection 41 and 15 messued. Characteristic data. Overcurrent Potection AL Coperation Reclosing AC input Automatic recovery				-					Two wires are coming out from the output connector
Overcurrent Overcurrent Overcurrent All coupus accept for +5VSB shutdown Shot protection 3.3% (2 max, others no load others no load Recovery Protection All Coupus accept for +5VSB shutdown Hold down All coupus anutown 3.4% (2 max, others no load Overcurrent All Accoparation Recovery All AcC Operation Recovery Recovery All Coupus Automatic recovery Recovery Recovery Recovery All AcC Operation Recovery Recovery Recovery Recovery Recovery (1) 3.4 - 1.3 1.3.4 - 1.5.6 - - Overvoltage) All Acquestery for +5VSB shutdown at latery soution - - - - Recovery Connected All Acquestery for +5VSB shutdown at latery soution - - - With Decicated Lead Battery Connected Charge value 25.7 × 10 1.3.4 - 1.5 /s No condensation No condensation No condensation NS-Ce00089-2.6, at no operation Motanal Temp. / Humidity 10 to 05°C'. / 10 to 90% No condensation No condensation NS-Ce00089-2.6, at no operation Motanal Temp. / Humidity 10 to 05% No condensation AS/DC (Fig) - FiG/DC couput: 500 VAC of r 1 mi			• • • • • •				-		and connected into one at the edge. 47µF electrolytic
Protection Method All outputs except for +5VSB shutdown, and there operation All outputs diversession Recovery At AC Operation Reclosing AC input Automatic recovery Automatic recovery Operating OVP Point At Batery Operation Reclosing AC input Automatic recovery Overvortage OVP Point No topics except revises Automatic recovery Overvortage At AC Operation Reclosing AC input Automatic recovery Overvortage At Batery Operation Reclosing AC input - Recovery At AC Operation Reclosing AC input - Overvortage At Batery Operation Reclosing AC input - Recovery At Batery Operation Reclosing AC input - Connected Charge water 0.74 max. (increorompter with charge control function is embedded on the batery) Connected Charge water 0.74 at 25°C with fully-charged batery, thermal compensation No condensation Operating Temp. / Humidity 0 to 60°C /1 10 to 95% No condensation "Refer to Fig.3 No condensation Operating Temp. / Humidity 2 to 10 rC / 1 10 to			age (p p)	i co maxi	roo max.	in o max.	in o max	roo mara	it and it is measured. *Characteristic data: Fig.18
Open At A C Operation Recising AC input or switching PS_ON# signal from H to 1: Autodown Others: all CHs rated load Overvoltage OVP Point (V) 3.76 - 4.3 5.74 - 7.0 13.4 - 15.6 - - Overvoltage OVP Point (V) 3.76 - 4.3 5.74 - 7.0 13.4 - 15.6 - - Overvoltage OVP Point (V) 3.76 - 4.3 5.74 - 7.0 13.4 - 15.6 - - Protection Method Ad apda secapts r-9058 bladua. A logits shutban at logits shutban		Overcurrent	OCP Point (A)	27 min.	31 min.	37 min.	Short pr	otection	3.3V: 5V max., others no load
Procession At a Coperation Recovery Recovery At AC Operation Reclosing AC input Automatic recovery Recovery At AC Operation Reclosing AC input Automatic recovery Reclosing AC input Automatic recovery Over-outlage OVP Point (V) 37.6 + 3. 5.7 + 7.0 13.4 + 15.6 - Protection At AC Operation Reclosing AC input - - With Dedicated N-MH Battery Colarge outlage AC input - - Connected Colarge outlage AC input - - Connected Connected Charge outlage AC input - - With Dedicated N-MH Battery Charge outlage AC input - - - Operating Temp. / Humidity 20 to 7C' / 10 to 95% No condensation No condensation No condensation Vibration Acceleration amplitude: 2g (10.55H2). Sweep cycles: 10. Test duration: 45 minutes each asis Jils-C-60088-2.6, at no operation Insulation Resistance AC/DD input - FG/DC output: 1500 VAC for 1 minute Cu-def current: 10mA Cu-def current: 10mA Reclaratical Shock Lift one bottom e		Protection	Method				Hold down		
Protection Method All oxplas exapt for +058 shaltown. All oxplas shaltown at battery operation - - Recovery AL AC Operation Reclosing AC: input or switching PS_0Ws signal from H'to 'L' - - With Dedicated N-MH Battery Charge outering 35V max. (automatically switches to the voltage that complexes with the dedicated battery) Connected Charge outering 35V max. (automatically switches to the voltage that complexes with the dedicated battery) Operating Temp. / Humidity Charge outering 37.3V typ. (at 25°C with fully-charged battery. thermal compensation) Connected Charge outering 0.50.2X (at 24W battery voltage) No condensation "Refer to Fig.3 Voltation Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10. Test duration: 45 minutes each axis JIS-C-60066-2-6, at no operation Voltation Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10. Test duration: 45 minutes each axis JIS-C-60066-2-6, at no operation Insulation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Insulation Resistance AC/DC input - FG/DC output: 500 VAC for 1 minute Resistance In solation Resistance AC/DC input - FG/DC output: 500 VAC for 1 minute seach) No flocutation of DC output: 500 V				All out					Others: all CHS rated load
Protection Method Ad output except for +S/SB stutions. It alongs and/output stutions at balaxy operation - - Recovery At AC Operation Reclosing AC input - - - Vith Dedicated N-MH Battery Charge output Signal from Ht to 1: - - Connected Charge output Signal from Ht to 1: - - With Dedicated N-MH Battery Charge output Signal from Ht to 1: - - With Dedicated Lead Battery Charge output Signal from Ht to 1: - - Operating Temp. / Humidity 0 to 60°C / 1 0to 90% No condensation "Refer to Fig.3 No condensation and to 1: No condensation "Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation "Refer to Fig.3 No condensation "Refer to Fig.3 Micrahanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edge JIS-C-60068-2-6, at no operation Isolation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Isolation Resistance AC/DC input - FG/DC output: 500 VAC for 1 minute Resi 30 - 2000 VPC Lea	Pro	Recovery	At AC Operation	Reclosing AC in	nput, or switching PS_ON#	signal from 'H' to 'L'	Automatio	recovery	
Protection Method Ad output except for +S/SB stutions. It alongs and/output stutions at balaxy operation - - Recovery At AC Operation Reclosing AC input - - - Vith Dedicated N-MH Battery Charge output Signal from Ht to 1: - - Connected Charge output Signal from Ht to 1: - - With Dedicated N-MH Battery Charge output Signal from Ht to 1: - - With Dedicated Lead Battery Charge output Signal from Ht to 1: - - Operating Temp. / Humidity 0 to 60°C / 1 0to 90% No condensation "Refer to Fig.3 No condensation and to 1: No condensation "Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation "Refer to Fig.3 No condensation "Refer to Fig.3 Micrahanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edge JIS-C-60068-2-6, at no operation Isolation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Isolation Resistance AC/DC input - FG/DC output: 500 VAC for 1 minute Resi 30 - 2000 VPC Lea	tect	(Overcurrent)	At Battery Operation		Reclosing AC inpu	ıt	Automatic recovery	Reclosing AC input	
Recovery (Vervoltage) At A Battery Operation (Earge output) Reclosing AC input - - Operating Connected Mith Dedicated Ni-MH Battery Charge output Charge output - - - Operating Connected Charge output 0.7A max. (microcomputer with charge control function is embedded on the battery.) - - Operating Connected Charge output 27.3V typ. (at 25°C with fully-charged battery, thermal compensation) No condensation *Refer to Fig.3 Operating Connected Charge output 0.16 60°C* / 10 to 90% No condensation *Refer to Fig.3 Storage Temp. / Humidity 0 to 60°C* / 10 to 90% No condensation No condensation Vibration Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10. Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Vibration Acceleration amplitude: 2g (10-50Hz), SWeep cycles: 10. Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Insulation Resistance AC/DC input - FG/DC output: 500 VAC for 1 minute Cu-doff current: 10mA Insulation Resistance AC/DC input - FG/DC output: 500 WAC in 1 minutes each) K1500 VDC C Leakage Current 0.5m Max. (100 VAC) / 1mA max. (200 VAC) ' 12 mA max. (240 VAC) ' Characteristic data: Fig.8	ion	Protection Method				1	-	-	
Instruction Instruction Instruction Instruction Instruction Operation Recioning AC input - - - Operation Instruction 0.7 max. (microcomputer with charge control function is embedded on the battery.) Connected 0.7 max. (microcomputer with charge control function is embedded on the battery.) - With Dedicated I-kad Battery Orange current 0.560.2A (at 24V battery voltage) No condensation Operating Temp. / Humidity 0 to 60°C* / 10 to 95% No condensation No condensation Storage Temp. / Humidity 0 to 60°C* / 10 to 95% No condensation No condensation Vibration Acceleration amplitude: 2g (10.55Hz), Sweep cycles: 10, Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Insulation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Current: 10mA Line Nois Current 0.5m Amax. (100 VAC) / 12m Amax. (200 VAC) 'Characteristic data: Fig.8 YEW. TYPE3226 (1k0) or equivalent Line Nois Emmunity #2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, no fluctuation of DC output or malfunct No fluctuation of DC output or malfunct Radiade, Radio-Frequency EM Field EN61000-4-2 compliant									
With Dedicated Ni-NH Battery Connected Charge outest (Darge outest Charge outest (Darge outest (Darge outest Charge outest (Darge				Reclosing AC in		•	-	-	
Open Connected Charge ourset 0.7A max. (microcomputer with charge control function is embedded on the battery.) Connected Charge ourset 0.73 V tp. (at 25° C with fully-charged battery, thermal compensation) Operating Temp. / Humidity 0 to 60°C' / 10 to 90% No condensation "Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation "Refer to Fig.3 Vibration Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10, Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Insulation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Cub-off current: 10mA Insulation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute At 500 VDC Leakage Current 0.5mA max. (100 VAC) / 1mA max. (240 VAC) "Characteristic data: Fig.8 YEW. TYPE3226 (1k0) or equivalent Hisulation Resistance AC/DC input - FG/DC output: 50MQ min. At 500 VDC Measured by INS-410 Leakage Current 0.5mA max. (100 VAC) / 1mA max. (240 VAC) "Characteristic data: Fig.8 YEW. TYPE3226 (1k0) or equivalent Electrostatic Discharge EN61000-4-3 compliant Realiated, Radio-Frequency EM Field EN61000-4-4 compliant Fast Transient Burst EN61000-4-4 compliant		,			÷ .		-	-	
Contracted Charge current [0.540.24 (at 24V battery voltage) model Operating Temp. / Humidity 0 to 60°C* / 10 to 90% No condensation *Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation No condensation Wibration Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10, Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Mechanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edges JIS-C-60068-2-31, at no operation Dielectric Strength AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Leakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) / 1.2mA max. (200 VAC) *Characteristic data: Fig.8 YEW. TYPE3226 (1KQ) or equivalent Line Noise Immunity ±2000V (pubs width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) No fluctuation of DC output or malfunct Electrostatic Discharge EN61000-4-2 compliant Fig.8 YEW. TYPE3226 (1KQ) or equivalent Radiated, Radio-Frequency EM Field EN61000-4-2 compliant No fluctuation of DC output or malfunct Fast Transient Burst EN61000-4-2 compliant Fig.8 YEM. TYPE3226 (1KQ) Voltage Dip /	0		Ni-MH Battery				•	• •	
Contracted Charge current [0.540.24 (at 24V battery voltage) model Operating Temp. / Humidity 0 to 60°C* / 10 to 90% No condensation *Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation No condensation Wibration Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10, Test duration: 45 minutes each axis JIS-C-60068-2-6, at no operation Mechanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edges JIS-C-60068-2-31, at no operation Dielectric Strength AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Leakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) / 1.2mA max. (200 VAC) *Characteristic data: Fig.8 YEW. TYPE3226 (1KQ) or equivalent Line Noise Immunity ±2000V (pubs width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) No fluctuation of DC output or malfunct Electrostatic Discharge EN61000-4-2 compliant Fig.8 YEW. TYPE3226 (1KQ) or equivalent Radiated, Radio-Frequency EM Field EN61000-4-2 compliant No fluctuation of DC output or malfunct Fast Transient Burst EN61000-4-2 compliant Fig.8 YEM. TYPE3226 (1KQ) Voltage Dip /	har	-							
Construction Construction Construction Construction 0 Operating Temp. / Humidity 0.10 6.0°C* / 10 to 90% No condensation "Refer to Fig.3 Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation "Refer to Fig.3 Michanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edges JIS-C-60068-2-6, at no operation Insulation Resistance AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Lakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) '0.12mA max. (240 VAC) '0.12mA max. [240 VAC) '0.22mA max. [240 VAC) '0.22mA max. [2	.ge		Lead Battery						
Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation Storage Temp. / Humidity -20 to 70°C / 10 to 95% No condensation Whechanical Shock Lift one bottom edge up to 50mm and let it fall. Number of bumps: 3 each of 4 edges JIS-C6008-2-6, at no operation Dielectric Strength AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-ofic rurent: 10mA Insulation Resistance AC/DC input - FG/DC output: 50MΩ min. At 500 VDC Leakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) ' 1characteristic data: Fig.8 YEW. TYPE3226 (1kΩ) or equivalent Line Noise Immunity ±2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) No fluctuation of DC output or malfunct Electrostatic Discharge EN61000-4-2 compliant Measured by INS-410 No fluctuation of DC output or malfunct Radiated, Radio-Frequency EM Field EN61000-4-5 compliant Measured by single unit Measured by single unit Voltage Dip / Regulation EN61000-4-6 compliant Magnetic Field Immunity EN61000-4-8 compliant At rated input/output Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Cooling System Forced air cooling: thermal-sensing variab									
Dielectric Strength AC/DC input - FG/DC output: 1500 VAC for 1 minute Cut-off current: 10mA Insulation Resistance AC/DC input - FG/DC output: 50MQ min. At 500 VDC Leakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) / 12mA max. (240 VAC) *Characteristic data: Fig.8 YEW. TYPE3226 (1kΩ) or equivalent Line Noise Immunity ±2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) Measured by INS-410 Related, Radio-Frequency EM Field EN61000-4-2 compliant Measured by INS-410 Fast Transient Burst EN61000-4-3 compliant Measured by INS-410 Lightning Surge EN61000-4-4 compliant Measured by INS-410 Voltage Dip / Regulation EN61000-4-4 compliant Measured by INS-410 Voltage Dip / Regulation EN61000-4-4 compliant Measured by single unit Voltage Dip / Regulation EN61000-4-8 compliant Measured by single unit Voltage Dip / Regulation EN61000-4-8 compliant Measured by single unit Conducted Emission VCC-B, FCC-B, EN55022-B compliant *Characteristic data: Fig.9 and 10 Measured by single unit Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant	Env					· · · · · · · · · · · · · · · · · · ·			
The second sec	iron		/ Humidity	Acceleration amplitude: 2g (10-55Hz), Sweep cycles: 10, Test duration: 45 minutes each axis					
The second sec	men								
Bis Insulation Resistance AC/DC input - FG/DC output: 50MΩ min. At 500 VDC Leakage Current 0.5mA max. (100 VAC) / 1mA max. (200 VAC) / 1.2mA max. (240 VAC) *Characteristic data: Fig.8 YEW. TYPE3226 (1kΩ) or equivalent Line Noise Immunity ±2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) Measured by INS-410 Electrostatic Discharge EN61000-4-2 compliant Moltucation of DC output or malfuncti Radiated, Radio-Frequency EM Field EN61000-4-3 compliant Moltucation of DC output or malfuncti Fast Transient Burst EN61000-4-4 compliant EN61000-4-5 compliant Revenues of the folde of the									
Line Noise Immunity ±2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) Measured by INS-410 Rediated, Radio-Frequency EM Field EN61000-4-2 compliant No fluctuation of DC output or malfuncti Fast Transient Burst EN61000-4-3 compliant EN61000-4-4 compliant Image: Field State Sta	Isula		0						
Line Noise Immunity ±2000V (pulse width: 100/1000ns, repetitive cycle: 30-100Hz, normal/common mode with pos./neg. polarity for 10 minutes each) Measured by INS-410 Rediated, Radio-Frequency EM Field EN61000-4-2 compliant No fluctuation of DC output or malfuncti Fast Transient Burst EN61000-4-3 compliant EN61000-4-4 compliant Image: Field State Sta	tion						(240 VAC) *Charac	cteristic data: Fig.8	
Image: Field Image: F	Ē	-		,	, ,	,	· · ·	5-	
Figure 1 Electrostatic Discharge EN61000-4-2 compliant Radiated, Radio-Frequency EM Field EN61000-4-3 compliant Image: Compliant Fast Transient Burst EN61000-4-4 compliant Image: Compliant Lightning Surge EN61000-4-6 compliant Image: Compliant RF Conducted Immunity EN61000-4-8 compliant Image: Compliant Magnetic Field Immunity EN61000-4-8 compliant Image: Compliant Voltage Dip / Regulation EN61000-4-11 compliant Image: Compliant Conducted Emission VCCI-B, FCC-B, EN55022-B compliant *Characteristic data: Fig.9 and 10 Measured by single unit Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant At rated input/output Voltage System Forced air cooling: thermal-sensing variable speed fan embedded Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard <tr< td=""><td></td><td></td><td>,</td><td></td><td></td><td></td><td></td><td></td><td>No fluctuation of DC output or malfunction</td></tr<>			,						No fluctuation of DC output or malfunction
Fast Transient Burst EN61000-4-4 compliant Lightning Surge EN61000-4-5 compliant RF Conducted Immunity EN61000-4-6 compliant Magnetic Field Immunity EN61000-4-6 compliant Voltage Dip / Regulation EN61000-4-8 compliant Conducted Emission VCCI-B, FCC-B, EN55022-B compliant *Characteristic data: Fig.9 and 10 Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant Variation VL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Cooling System Forced air cooling: thermal-sensing variable speed fan embedded Voltupt Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 Veight		Electrostatic Dis	scharge						
MC Lightning Surge EN61000-4-5 compliant RF Conducted Immunity EN61000-4-6 compliant Image: Second		Radiated, Radio-	Frequency EM Field	EN61000-4-	3 compliant				
RF Conducted Immunity ENK1000-4-6 compliant Magnetic Field Immunity ENK1000-4-8 compliant Voltage Dip / Regulation ENK1000-4-8 compliant Conducted Emission ENK1000-4-11 compliant Voltage Dip / Regulation ENK1000-4-11 compliant Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, ENK1000-3-2 (A14) Class D compliant At rated input/output Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102		Fast Transient I	Burst	EN61000-4-	4 compliant				
RF Conducted Immunity EN61000-4-6 compliant Magnetic Field Immunity EN61000-4-8 compliant Voltage Dip / Regulation EN61000-4-8 compliant Conducted Emission EN61000-4-11 compliant Voltage Dip / Regulation EN61000-4-11 compliant Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant At rated input/output Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102	N N	Lightning Surge	•	EN61000-4-	5 compliant				
Voltage Dip / Regulation EN61000-4-11 compliant Conducted Emission VCCI-B, FCC-B, EN55022-B compliant *Characteristic data: Fig.9 and 10 Measured by single unit Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant At rated input/output Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Fan rotates at low speed depending on the temperature of power supply even PS_ON# Cooling System Forced air cooling: thermal-sensing variable speed fan embedded Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 1.8 kg									
Conducted Emission VCCI-B, FCC-B, EN55022-B compliant *Characteristic data: Fig.9 and 10 Measured by single unit Harmonic Current Regulation IEC61000-3-2 (Ver.2.1) Class D, EN61000-3-2 (A14) Class D compliant At rated input/output Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Fan rotates at low speed depending on the temperature of power supply even PS_ON# Cooling System Forced air cooling: thermal-sensing variable speed fan embedded Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 Veight					•				
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Safety Standards UL60950-1, CSA C22.2 No.60950-1, CE Marking (LVD, EMC), CCC certified Cooling System Forced air cooling: thermal-sensing variable speed fan embedded Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 1.8 kg									
Cooling System Forced air cooling: thermal-sensing variable speed fan embedded Fan rotates at low speed depending on the temperature of power supply even PS_ON# Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 Weight 1.8 kg Follow our standard	\vdash		÷				, ,		At rated input/output
Output Grounding Connected chassis (FG)* *It can be customized to connect to cap Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 Weight		-					. ,	certified	Fan rotates at low speed depending on the internal temperature of power supply even PS ON# signal 'H'.
Output Hold-up time PWR_OK holds up 16ms min. after AC failure *Characteristic data: Fig.15 At rated output Reliability Grade FA (industrial equipment grade, double-sided PCB with plated through hole) Follow our standard MTBF 70,000H min. Based on EIAJ RCR-9102 Weight 1.8 kg Follow our standard		Output Groundi	na	Connected	chassis (FG)*				
MTBF 70,000H min. Based on EIAJ RCR-9102 Weight 1.8 kg	Ι¥	-	-		. ,	er AC failure *Ch	aracteristic data: I	Fig 15	
MTBF 70,000H min. Based on EIAJ RCR-9102 Weight 1.8 kg	ers								
Weight 1.8 kg			-					,	
Warranty 3 years after delivery. If any faults belong to us, the defective unit shall be repaired or replaced at our cost. Except for errors caused by operation n		Warranty			elivery. If any faults belong	to us, the defective ur	nit shall be repaired or	replaced at our cost.	Except for errors caused by operation not listed



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BRAND Desktop PC Power Supply

Nonstop (Uninterruptible / No Power-interruption) Power Supply

Signal Input / Output Specification Condition: at normal temperature and humidity unless otherwise specified

	Items	Specification				Note		
Inpu	Output ON / OFF Control Signal (PS_ON#)		and -12V outputs shutdown wit operation, battery connection i	th 'H' or 'OPEN' input. is shut off with 'H' or 'OPEN' in	put.)	The pin 22 of MAIN1 connector, the pin 6 of SIG connector		
Input Signa	+3.3V SENSE		o detect the voltage of +3.3V of the + side of the output cable	output; by connecting to the loa is compensated.	id terminal,	The pin 2 of MAIN1 connector		
<u>m</u>	Battery Shutdown Signal for TTL (SHUT DOWN_T)		s shut down with 'L' input (60n g the backup operation)	ns min. input).		The pin 2 of SIG connector		
	Battery Shutdown Signal for RS232C (SHUT DOWN_R)		s shut down with 'positive (+2. ig the backup operation)	4V min.)' input (60ms min. inp	ut).	Apply to only HNSP9-520P-S20-H1V The pin 4 of front panel RS232C connector		
	Fan Control Signal (FAN_C)	The control terminal	l of fan motor; the fan motor is	forcibly rotated at full speed at	t 'L' input.	The pin 4 of SIG connector		
Q	Normal Output Signal (PWR_OK)	'H'signal is delivered	d at normal output (detection d	lelay time: 100 - 500ms).		The pin 21 of MAIN1 connector		
Output Signal	Fan Monitor Signal (FAN_M)	Duty ratio of the pul (Interval between th	se shall be 0.5 typ. e signals becomes longer at lo	r are delivered (open collector ow speed and shorter at high s ps caused by any failure or ma	peed.)	The pin 5 of SIG connector		
	Blackout Detection Signal for TTL (AC FAIL_T)			ackout detection (open collector o 40ms after AC input failure at rated i		The pin 1 of SIG connector		
	Blackout Detection Signal for RS232C (AC FAIL_R)		is delivered at low AC input volt /AC typ., detection delay time: 16 - 4	age and blackout detection. 40ms after AC input failure at rated i	nput/output)	Apply to only HNSP9-520P-S20-H1V The pin 8 of front panel RS232C connector		
	Blackout Detection Signal for USB (AC FAIL_U)		nal of AC FAIL_R 'negative' is deliv		Apply to only HNSP9-520P-S20-H6V Front panel USB connector			
	Low Battery Voltage Signal for TTL (BATT LOW_T)		PEN' when the battery terminal ut). 'L' is delivered when the b		The pin 3 of SIG connector			
	Low Battery Voltage Signal for RS232C (BATT LOW_R)		is delivered when the battery to is delivered when the battery p	∂V typ.	Apply to only HNSP9-520P-S20-H1V The pin 1 of front panel RS232C connector			
	Low Battery Voltage Signal for USB (BATT LOW_U)		I of BATT LOW_R 'negative' is delivere al of BATT LOW_R 'positive' is delivere	Apply to only HNSP9-520P-S20-H6V Front panel USB connector				
	Buzzer Noise		ered at blackout (the volume ca ay go off for a few seconds whe	Apply to only HNSP9-520P-S20-H2V				
			Signal C	ircuit				
Inp	(PS_ON#)		(SHUT DOWN_T)			(SHUT DOWN_R) ply to only HNSP9-520P-S20-H1V		
Input Signal Circuit	->1mA	4.7kΩ typ. Signal input terminal Signal x. 5.25V max.		B Signal input terminal → 1mA max. 5.25V max.	ADI or e Pov	VI232AARN (Analog Devices) quivalent ver supply side er logic		
Outpu	(PWR_OK)	(AC FAIL_T)	, (FAN M), (BATT LOW_T)	(AC FAIL_R), (BATT Apply to only HNSP9-52	_ /	(AC FAIL_U), (BATT LOW_U) Apply to only HNSP9-520P-S20-H6		
Output Signal Circuit	Power supply side 1kΩ typ. 5.25V m ('L'<0.4V)	ax. +	ly side Signal output terminal 5.25V max. 5.25V max. ('L'<0.4V)	ADM232AARN (Analog Devic or equivalent Power supply side	RS232C outpu	USB1.1 standard compliant (B type connector) *Dedicated driver software needs to be installed to the PC (Existing UPS services or other softwares that use RS232C signal can be used with USB signal).		

Internal Structure

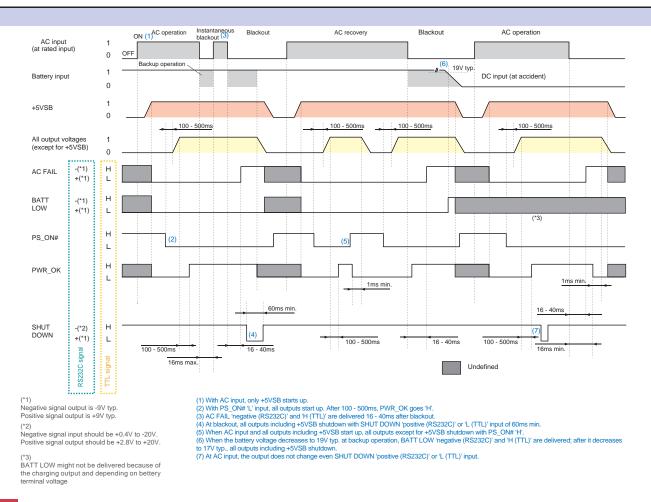


Additional Output Unit

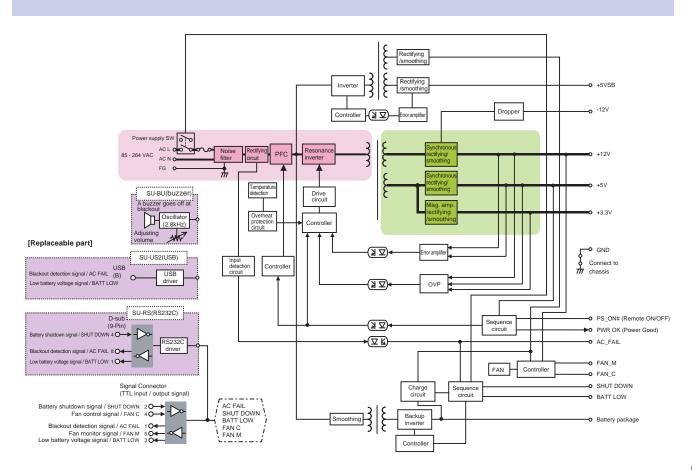


17 HNSP9-520P-S20 series

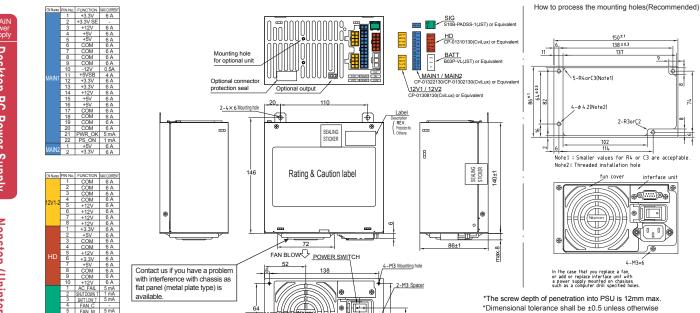
Sequence Diagram HNSP9-520P-S20-H1V connected w/ dedicated RS232C signal unit: 'SU-RS' and dedicated battery package



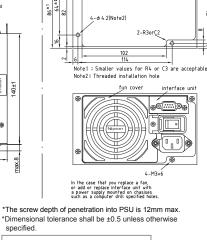
Block Diagram







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150± 138±0.3 137

Installation direction
The unit can be installed in any directions.

Optional Components Sold Separately

Detachable Output Harness	3		
Model	Length and Type of Connector		Output Port Allocation
Main power cable MAIN			
WH-M2022-500	500±10 20-pin		
WH-M2022-300	300±10 20-pin		
WH-M2422-500	500±15 24-pin		
12V power cable 12V			
WH-V0808-500	200±15 ► 📑 12V 8-pin		
WH-V0408-500	500±15 ► I2V 4-pin		
WH-VG208-500	500±15		
WH-VV208-500-02	N 500±10 I2V 8-pin 12V 8-pin I2V 8-pin		
WH-VG208-500-02	500±10 ▶□ 12V 8-pin PCI-E 6-pin		
WH-G0808-500	500±10 PCI-E 6+2-pin		
WH-GG208-500	500±10 PCI-E 6-pin PCI-E 6+2-pin	**	Acceptable cable(s)
HD power cable			1 model 2 models 1 model 1 model
WH-PP610-850	150±15 150±15 150±15 150±15	peripheral (HD)	
WH-PS610-850	150±15 150±15 150±15 150±15		
WH-PS710-850	550±15 150±15 150±15 850±15 150±15 150±15		
SIG cable SIG			
WH-S0610-500	00-500±15 ○ SIG-1		
WH-S0610-500-01	00 500±15 00 500±15 □ SIG-2		
WH-S0310-500	00 500±15 ► SIG-3		

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AC INLET

Optional Components Sold Separately

Battery	package				
Page	Picture	Model	Туре	Shape (size)	Backup Time
P.402	4.U	BS11A-P24/2.3L	Lead	5-inch bay fixed type (WxDxH=146x190x37mm)	(epput_ eput_ 0 50 100 150 200 Load (W)
P.404	-	RBS02A-P24/2.3L	Lead	5-inch bay fixed, removable type (WxDxH=146x245x42mm)	(energy 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
P.405		BS12A-P24/5.0L	Lead	5-inch bay 2-unit fixed type (WxDxH=146x190x74.9mm)	(a) 30 20 0 0 000 150 200 250 300 350 Load (W)
P.409	All and a second	BS10A-H24/2.0L	Ni-MH	5-inch bay fixed type (WxDxH=146x200x38mm)	(energy 10 10 150 200 250 300 Load (W)
P.413	AND ON	BS22A-H24/2.0L	Ni-MH	5-inch bay fixed type (WxDxH=146x210x41mm)	20 10 10 10 10 10 150 20 250 300 Load (W)
*The back	kup time is a reference	value at initial use; it is not a g	uaranteed valu	е.	

Cable			
Picture	Model	Туре	Description
	WH2601-02	RS232C communication cable	Dedicated to Windows 2000 / XP / Vista / 7. The cable can be used with power supplies equipped with SU-RS (RS232C signal unit). [RoHS]
reference image	WH2967	USB communication cable	USB communication cable The cable can be used with power supplies equipped with SU-US2 (USB signal unit). [RoHS]
Q	WH2753	AC power cord	125 VAC 12A [PSE]
	WH2753-02	AC power cord	125 VAC 12A (tracking resistance type) [PSE]

Parts / Unit			
Picture	Model	Туре	Description
• • • • • • • • • • • • • • • • • • • •	SU-RS	RS232C signal unit	Automatic shutdown is possible with RS232C. (standard equipment for HNSP9-520P-S20-H1V)
•	SU-US2	USB signal unit	Automatic shutdown is possible with USB. (standard equipment for HNSP9-520P-S20-H6V)
• •	SU-BU	Buzzer unit	Buzzer noise is delivered at blackout (the volume can be adjusted). (standard equipment for HNSP9-520P-S20-H2V)
	ACC2734	AC power cord retention clamp	It prevents the slipping of AC power cord (WH2753, WH2753-02) and operational Mistakes of power switch. *In some cases, the clamp (ACC2734) might not be possible mounted to a commercial AC power cord.

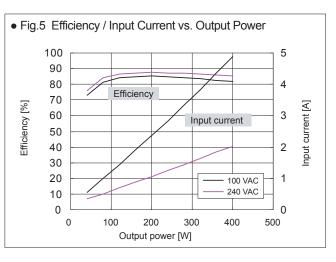
Software

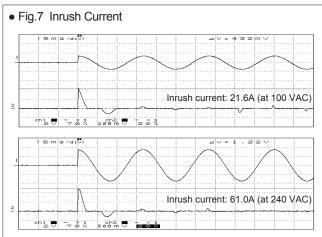
Suitware			
Picture	Model	Туре	Description
KSP De2	NSP Pro 2	Automatic shutdown software	Dedicated to Windows 2000 / XP / Vista / 7
*Free software "NSP	Pro 2" available at our we		

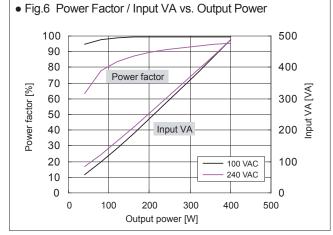
*Free software "NSP Pro 2" available at our web-site *The UPS service of Windows 2000 and XP available

Other Optional C	Other Optional Components							
Model	Description	Model	Description					
ACC2637	Automatic startup unit	WH5105	12V 4-pin connector conversion harness (80mm)					
WH2820	/H2820 20-pin extension harness (600mm)		12V 4-pin connector conversion harness (320mm)					
WH2747	20-pin extension harness (450mm)	WH5055	AT connector conversion harness					
WH2892-02	20-pin extension harness (200mm)	ACC5046	Harness with PS_ON switch					
WH2884	Battery extension cable (450mm)	ACC5077	PS_ON terminal short connector					
WH2812	PCI-E 6-pin connector conversion harness	WH5073	PS_ON terminal short 20-pin harness					

Characteristics Data HNSP9-520P-S20-H1V (Examples of actual measurement)



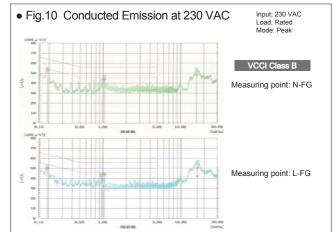






Measurement conditions: IEC60950 compliant

	Rated load	Min. load
100 VAC	0.18mA	0.17mA
200 VAC	0.30mA	0.29mA
240 VAC	0.35mA	0.35mA



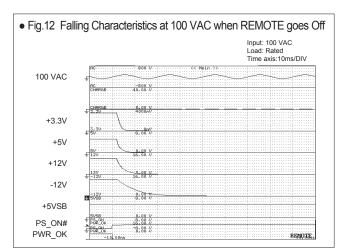
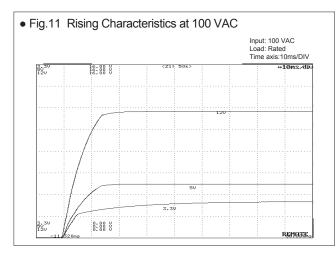
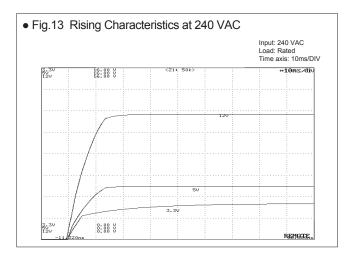


 Fig.9 Conducted Emission at 100 VAC Load: Rated Mode: Peak
VCCI Class B Measuring point: N-FG
Measuring point: L-FG



Characteristics Data HNSP9-520P-S20-H1V (Examples of actual measurement)



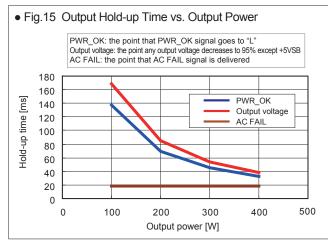


Fig.17 Output Vo	oltage I	Regulat	tion					
				+5V	put / output / output / output	Min. 0/ 0/	A 25 A 10	A A
AC input voltage	85 VAC	100 VAC	132 V.	AC	176	VAC	240 VAC	264 VAC
+3.3V output (min. load)	3.311 V	3.311 V	3.31	1 V	3.30)8 V	3.308 \	3.308 V
+3.3V output (rated load)	3.303 V	3.303 V	3.303	3 V	3.29	99 V	3.298 \	/ 3.298 V
+5V output (min. load)	5.072 V	5.073 V	5.073	3 V	5.0	73 V	5.072 \	5.072 V
+5V output (rated load)	5.009 V	5.009 V	5.010	V C	5.00)8 V	5.009 \	5.009 V
+12V output (min. load)	12.028 V	12.027 V	12.026	5 V 6	12.0 [,]	14 V	12.015 \	/12.014 V
+12V output (rated load)	11.982 V	11.982 V	11.980) V	11.9	78 V	11.976 \	/11.976 V

