PJA100F

100





Example recommended EMI/EMC filter NAC-04-472



High voltage pulse noise type : NAP series Low leakage current type : NAM series

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- 1) Series name 2) Single output 3) Output wattage 4) Universal input 5) Output voltage
- Optional *6
 C: with Coating
 R: Remote on/off
 - (Required external
- power source)
 J : Connector interface
- T : Vertical terminal block

N2: with DIN rail

See 5.1 in Instruction Manual.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	MODEL		PJA100F-12	100F-5-N" about 5V outpu	PJA100F-24	PJA100F-36	PJA100F-48
	VOLTAGE[V]					_	
	VOLIAGE[V]	ACIN 100V	AC85 - 264 1 φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual)				
	CUDDENTIAL		1.2typ (lo=90%)				
	CURRENT[A]	ACIN 115V ACIN 230V	1.1typ (lo=100%)				
	EDECHENOVIL 1	ACIN 230V	0.6typ (lo=100%)				
	FREQUENCY[Hz]	1001140014	50 / 60 (47 - 63)	001 (1 000()	(I 000/)	(1 000/)	001 (1 000()
		ACIN 100V	82typ (lo=90%)	83typ (lo=90%)	85typ (lo=90%)	86typ (lo=90%)	86typ (lo=90%)
	EFFICIENCY[%]	ACIN 115V	82typ (lo=100%)	83typ (lo=100%)	85typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)
NPUT		ACIN 230V	85typ (lo=100%)	86typ (lo=100%)	88typ (lo=100%)	89typ (lo=100%)	89typ (lo=100%)
		ACIN 100V	0.98typ (lo=90%)				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)				
		ACIN 230V	** '	Power factor correction is	stopped at AC250V or	more.	
		ACIN 100V	16typ (Io=90%) Ta=25°				
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25	℃ at cold start			
		ACIN 230V	32typ (lo=100%) Ta=25				
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 240V, 6	60Hz, Io=100%, According	ng to IEC62368-1 and D	EN-AN)	
	VOLTAGE[V]		12	15	24	36	48
	CURRENT[A]	ACIN 85-115V	, ,	ired at ACIN 115V or les	, `		
	COMMENTER	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1
	WATTAGE[W]	ACIN 85-115V	Output derating is requ	ired at ACIN 115V or les	s (refer to instruction ma	anual 3.2)	
	WATTAGE[W]	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8
	LINE REGULATION[m	ıV] *3	48max	60max	96max	144max	192max
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max
	[mV] *3	lo=0 to 30%	Burst operation (Please	contact us about detail)		
	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max
	*1	-10 to 0°C	160max	160max	160max	200max	400max
DUTPUT	lo: load factor	lo=0 to 30%	500max	500max	500max	500max	500max
	RIPPLE NOISE[mVp-p] *1 lo: load factor TEMPERATURE REGULATION[mV]	0 to +40°C	150max	150max	150max	200max	200max
		-10 to 0℃	180max	180max	180max	240max	500max
			600max	600max	600max	600max	600max
		0 to +40°C	120max	150max	240max	360max	480max
		-10 to +40°C	180max	180max	290max	440max	600max
	DRIFT[mV]	*2	48max	60max	96max	144max	192max
	START-UP TIME[ms]			=100%) Ta=25°C	Johnax	ТЧПСХ	TOZITION
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=1				
	OUTPUT VOLTAGE ADJUSTMEN	IT DANGER/I	** *	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80
	OUTPUT VOLTAGE SETT		12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92
	OVERCURRENT PROTE			ting and recovers autom		JU.UU IU 37.44	40.00 (0 49.92
				17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20
ROTECTION	OVERVOLTAGE PROTE		13.80 to 16.80	11.20 10 21.00	21.00 10 33.00	41.40 (0 50.40	34.00 (0 67.20
CIRCUIT AND		ION	LED (Green)				
J.IILIIJ	REMOTE SENSING		Not provided				
	REMOTE ON/OFF	a =	Optional (Required external power source. Option -R) AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)				
	INPUT-OUTPUT • RC	*8					
SOLATION	INPUT-FG			toff current = 10mA, DC	· · · · · · · · · · · · · · · · · · ·		
	OUTPUT RC-FG	*8	,	ff current = 100mA, DC5	,		
	OUTPUT-RC	*8		ff current = 100mA, DC5			
	OPERATING TEMP., HUMID. AND		` '	erating is required), 20 -	•	37	et) max
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE		RH (Non condensing), 9			
	VIBRATION			G), 3minutes period, 60n		and Z axes	
	IMPACT		, ,.	, once each X, Y and Z		,	,
SAFETY AND	AGENCY APPROVAL	S		A62368-1), EN62368-1,		I) Complies with DEN-A	AN
NOISE	CONDUCTED NOISE		Complies with FCC-B,	VCCI-B, CISPR22-B, EN	N55011-B, EN55022-B		
REGULATIONS	HARMONIC ATTENUA	ATOR *7	Complies with IEC6100	00-3-2 class A			

OTHERS	CASE SIZE/WEIGHT	41×97×109mm [1.61×3.82×4.29 inches] (Excluding terminal block and screw) (W×H×D) / 500g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*5 5 years (subject to the operating conditions)

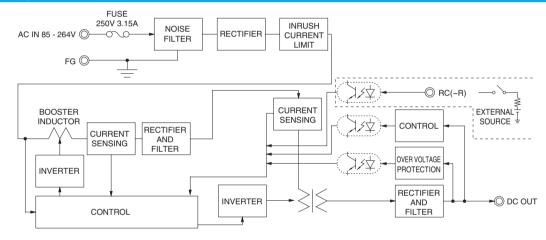
- *1 This is the result of measurement of the testing board with capacitors of 22 µF and 0.1 µF placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.

 See 1.6 of Instruction Manual for more details.
 - When the load factor is 0 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
- *2 Drift is the change in DC output for an eight hour period after a half-
- hour warm-up at 25℃.
- *3 Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- 4 Output power derating is required. See 3.2 in Instruction Manual.
- 5 See 3.3 in Instruction Manual for more details.
- 6 Consult us about safety agency approvals for the models with optional functions
- Consult us about other classes
- The RC terminal is added to option –R models. The RC terminal is isolated
- from input, output, and FG.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- Parallel operation is not possible with this mode.
- Sound noise may be heard from the power supply when used for pulse load.

Features

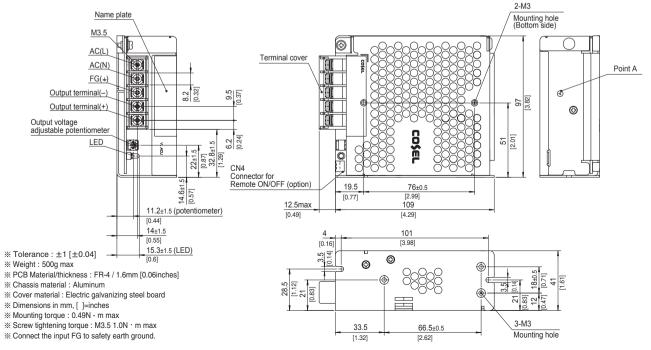
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PJA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of –R option, –J option, –N2 option and –T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PJA150F

150





Example recommended EMI/EMC filter NAC-04-472



High voltage pulse noise type : NAP series Low leakage current type : NAM series

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- Optional *6
 C: with Coating
 R: Remote on/off
 - (Required external power source)
 J : Connector interface
- T : Vertical terminal block
- N2: with DIN rail

See 5.1 in Instruction Manual.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

SPECIFICATIONS

* Please consider "PRA150F-5-N" about 5V output with case cover

oi Loii	ICATIONS			150F-5-N" about 5V outpu				
	MODEL		PJA150F-12	PJA150F-15	PJA150F-24	PJA150F-36	PJA150F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	t derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction M	lanual)	
		ACIN 100V	1.7typ (lo=90%)					
	CURRENT[A] ACIN 115V		1.6typ (lo=100%)					
		ACIN 230V	0.8typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	84typ (lo=90%)	84typ (lo=90%)	87typ (lo=90%)	87typ (lo=90%)	87typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	84typ (lo=100%)	84typ (lo=100%)	87typ (lo=100%)	87typ (lo=100%)	87typ (lo=100%)	
NPUT		ACIN 230V	87typ (lo=100%)	87typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)	90typ (lo=100%)	
		ACIN 100V	0.98typ (lo=90%)	, , , , ,	, , , , ,	, , , , ,	, , , , ,	
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.93typ (lo=100%) * F	Power factor correction is	s stopped at AC250V or	more.		
		ACIN 100V	16typ (lo=90%) Ta=25°					
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25					
		ACIN 230V	32typ (Io=100%) Ta=25					
	LEAKAGE CURRENT		, , , ,	60Hz, Io=100%, According	ng to IEC62368-1 and E	PN-AN)		
	VOLTAGE[V]	[]	12	15	24	36	48	
		ACIN 85-115V		ired at ACIN 115V or les	1		1.0	
	CURRENT[A]	ACIN 115V-264V	12.5	10	6.4	4.2	3.2	
		ACIN 85-115V		ired at ACIN 115V or les	1 -		0.2	
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6	
	LINE REGULATION[n		48max	60max	96max	151.2 144max	192max	
					1 1 1			
	LOAD REGULATION		100max	120max	150max	150max	300max	
	[mV] *3	lo=0 to 30%		e contact us about detail	,	150	150	
	RIPPLE[mVp-p]	0 to +40°C		120max	120max	150max	150max	
	*1	-10 to 0℃	160max	160max	160max	200max	400max	
DUTPUT	lo: load factor	10-0 10 0070	500max	500max	500max	500max	500max	
	RIPPLE NOISE[mVp-p]	0 to +40°C	150max	150max	150max	200max	200max	
	*1	-10 to 0℃	180max	180max	180max	240max	500max	
	lo: load factor	10-0 10 00 /0	600max	600max	600max	600max	600max	
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max	
		-10 to +40°C	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		500typ (ACIN 115V, Io-	=100%) Ta=25°C				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETT	ING[V]	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92	
	OVERCURRENT PROTE	CTION	Works over 105% of ra	ting and recovers autom	atically			
PROTECTION	OVERVOLTAGE PROTE	CTION[V]	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20	
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
	INPUT-OUTPUT • RC	*8						
001 47:01:	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)					
SOLATION	OUTPUT • RC-FG	*8	AC500V 1minute, Cuto	off current = 100mA, DC5	500V 50MΩ min (At roo	m temperature)		
	OUTPUT-RC	*8		off current = 100mA, DC5				
	OPERATING TEMP., HUMID. AND	ALTITUDE *4					et) max	
	STORAGE TEMP., HUMID. AND							
NVIRONMENT	VIBRATION			G), 3minutes period, 60n				
	IMPACT			s, once each X, Y and Z		· · · = = = = = = = = = = = = = = = = =		
SAFETY AND	AGENCY APPROVAL	S	. ,,	A62368-1), EN62368-1,		I) Complies with DEN-4	N.	
						, complice with DEIN-F		
NOISE	CONDUCTED NOISE		Complies with FCC-R	VCCI-B, CISPR22-B, EN	J55011-R FN55022-R			



OTHERS	CASE SIZE/WEIGHT	41×97×129mm [1.61×3.82×5.08 inches] (Excluding terminal block and screw) (W×H×D) / 600g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*5 5 years (subject to the operating conditions)

This is the result of measurement of the testing board with capacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20. MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken

See 1.6 of Instruction Manual for more details. When the load factor is 0 - 30%, the switching power loss is reduced by

burst operation, which will cause ripple and ripple noise to go beyond the specifications

Drift is the change in DC output for an eight hour period after a half-

hour warm-up at 25℃.

- *3 Consult us about dynamic load and input response Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction Manual for more details
- Consult us about safety agency approvals for the models with optional functions
- Consult us about other classes
- The RC terminal is added to option -R models. The RC terminal is

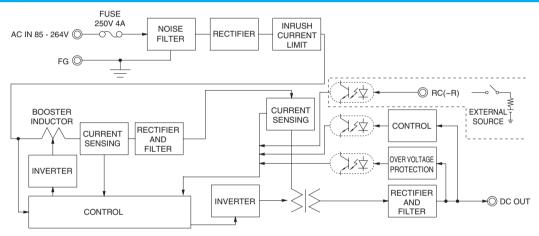
isolated from input, output, and FG.

- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for

Features

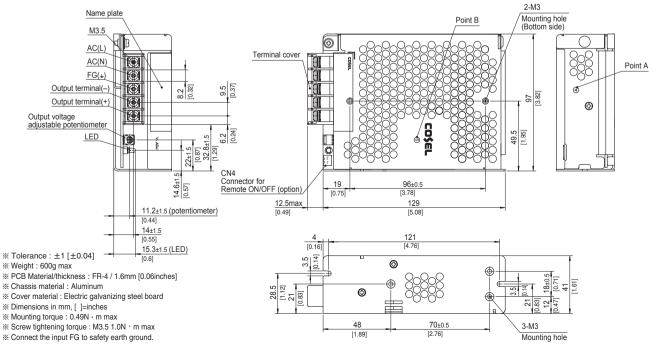
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PJA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of -R option, -J option, -N2 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PJA300F

300



Example recommended EMI/EMC filter NAC-06-472

High voltage pulse noise type : NAP series Low leakage current type : NAM series

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- 1) Series name 2) Single output 3) Output wattage 4) Universal input 5) Output voltage

- (a) Output voltage
 (b) Optional *6
 (c) with Coating
 (c) Low leakage current
 (c) V: External potentiometer for
- output voltage adjustment R : Remote on/off
- (Required external power source)
 F4: Low speed fan

See 5.1 in Instruction Manual.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	MODEL		PJA300F-5	PJA300F-12	PJA300F-15	PJA300F-24	PJA300F-36	PJA300F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (O	utput derating is requ	uired at AC85V - 100	V. See 1.1 and 3.2 ir	n Instruction Manual)		
		ACIN 100V	3.5typ (lo=100%)	3.9typ (lo=100%)	·				
	CURRENT[A]	ACIN 115V	3.0typ (lo=100%)	3.3typ (lo=100%)					
		ACIN 230V	1.5typ (lo=100%)	1.7typ (lo=100%)		,			
	FREQUENCY[Hz]		50 / 60 (47 - 63)	71 (3 3 3 3 7)					
		ACIN 100V	73typ (lo=100%)	79typ (Io=100%)	81typ (lo=100%)	82typ (lo=100%)	83typ (Io=100%)	82typ (lo=100%)	
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	80typ (Io=100%)	82typ (Io=100%)	83typ (lo=100%)	83typ (Io=100%)	83typ (lo=100%)	
NPUT		ACIN 230V	77typ (lo=100%)	82typ (lo=100%)	84typ (lo=100%)	86typ (lo=100%)	87typ (Io=100%)	86typ (lo=100%	
		ACIN 100V	0.99typ (lo=100%)	, , , , , , , , , , , , , , , , , , , ,	, ,, ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,		
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)						
		ACIN 230V	0.95typ (lo=100%)						
		ACIN 100V	20typ (lo=100%) Ta	a=25°C at cold start					
	INRUSH CURRENT[A]	ACIN 115V	20typ (lo=100%) Ta						
		ACIN 230V	40typ (lo=100%) Ta						
	LEAKAGE CURRENT		, , ,		According to IEC623	68-1 and DEN-AN)			
	VOLTAGE[V]		5	12	15	24	36	48	
		ACIN 85-100V	Output derating is a	required at ACIN 100	OV or less (refer to ins	struction manual 3.2)	1 -	
	CURRENT[A]	ACIN 100V-264V	50	25	20	12.5	8.4	6.3	
	_	ACIN 85-100V	Output derating is a	required at ACIN 100	OV or less (refer to ins	struction manual 3.2			
	WATTAGE[W]	ACIN 100V-264V	250	300	300	300	302.4	302.4	
	LINE REGULATION[mV]		20max	48max	60max	96max	144max	192max	
	LOAD REGULATION		40max	100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	120max	120max	150max	150max	
		-10 to 0°C	140max	160max	160max	160max	160max	400max	
DUTPUT	RIPPLE NOISE[mVp-p] *1 TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	150max	150max	200max	200max	
		-10 to 0℃	160max	180max	180max	180max	240max	500max	
		0 to ±50°C	50max	120max	150max	240max	360max	480max	
		-10 to +50°C	75max	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 100\		Johnax	Toomax	TTIMOX	TOZITICA	
	HOLD-UP TIME[ms]		20typ (ACIN 100V,	·					
	OUTPUT VOLTAGE ADJUSTME	NT RANGEIVI	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92	
	OVERCURRENT PROTI			of rating and recover		21.00 to 21.00	00.00 10 07.11	10.00 to 10.02	
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND	OPERATING INDICAT		LED (Green)	1 . 3.00 .0 10.00	1			1 - 5	
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		<u> </u>	external power sour	rce. Option -R)				
	INPUT-OUTPUT • RC	*9				min (At room tempe	rature)		
	INPUT-FG		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)						
SOLATION	OUTPUT • RC-FG	*9	· · · · · · · · · · · · · · · · · · ·		mA, DC500V 50M Ω				
	OUTPUT-RC	*9	,		mA, DC500V 50M Ω				
	OPERATING TEMP., HUMID. AND				ed), 20 - 90%RH (Nor				
	STORAGE TEMP., HUMID.AND		` '		nsing), 9,000m (30,00		(10,000 1001) 1110	•	
ENVIRONMENT	VIBRATION		· · · · · · · · · · · · · · · · · · ·		riod, 60minutes each		 PS		
	IMPACT			1ms, once each X, Y		aiong A, i ana Z ax			
PACETY AND	AGENCY APPROVAL	<u>s</u>			2368-1 Complies with	DEN-AN			
SAFETY AND NOISE	CONDUCTED NOISE				22-B, EN55011-B, EN				
REGULATIONS	HARMONIC ATTENU		Complies with IEC		, EN00011-D, El	NJJU22-D			
	LIAMINONIC ATTENU	AIUN **	Compiles with IEC						



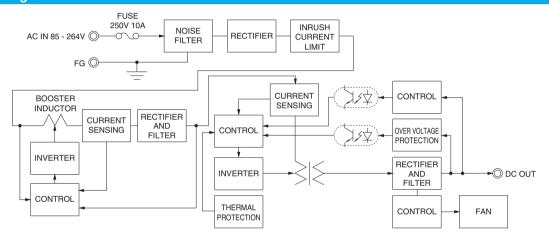
OTHERS	CASE SIZE/WEIGHT	102×41×190mm [4.0	2×1.61×7.48 inches] (Excluding terminal block and screw) (W×H×D) / 1.0kg max
OTHERS	COOLING METHOD	Forced cooling (interna	al fan)
WARRANTY	WARRANTY	5 years (subject to the	operating conditions)

- This is the result of measurement of the testing board with capacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20. MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken
 - See 1.6 of Instruction Manual for more details. Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃
- Consult us about dynamic load and input response.
- Output power derating is required. See 3.2 in Instruction Manual. See 3.3 in Instruction Manual for more details.
- Consult us about safety agency approvals for the models with optional functions.
- The fan speed slows down at no load.
- Consult us about other classes.
- The RC terminal is added to option –R models. The RC terminal is
- isolated from input, output, and FG.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for

Features

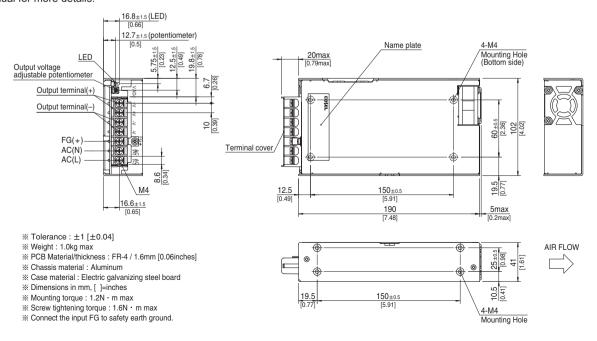
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Slow fan speed at no load
- · Complies with SEMI F-47
- · Many optional functions

Block diagram



External view

The external size of -V option and -R option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



eco

PJA600F

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Example recommended EMI/EMC filter NAC-16-472



High voltage pulse noise type : NAP series Low leakage current type : NAM series

*A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
 ② Single output
 ③ Output wattage
 ④ Universal input
 ⑤ Output voltage
 ⑥ Optional *6
 C : with Coating
 G : Low leakage current
 V : External potentiometer for output voltage adjustment
 W: Parallel operation,
 LV a

See 5.1 in Instruction Manual.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	MODEL		PJA600F-5	PJA600F-12	PJA600F-15	PJA600F-24	PJA600F-36	PJA600F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (O	utput derating is req	uired at AC85V - 100	V. See 1.1 and 3.2 ir	n Instruction Manual)		
	ACIN 100V		6.7typ (lo=100%)	7.5typ (lo=100%)			•		
	CURRENT[A]	ACIN 115V	5.7typ (lo=100%)	6.5typ (lo=100%)					
		ACIN 230V	2.8typ (lo=100%)	3.2typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)	71 (1 1 1 1)					
		ACIN 100V	76typ (lo=100%)	81typ (lo=100%)	82typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	
	EFFICIENCY[%]	ACIN 115V	77typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	85typ (lo=100%)	86typ (lo=100%)	85typ (lo=100%)	
NPUT		ACIN 230V	79typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	88typ (lo=100%)	88typ (Io=100%)	88typ (lo=100%	
		ACIN 100V	0.99typ (lo=100%)	, , , , , ,	, ,, ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , ,	
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)						
		ACIN 230V	0.95typ (lo=100%)						
		ACIN 100V	71 \ /) (Primary inrush cu	rrent /Secondary inru	ish current) (More th	nan 3sec to re-start)		
	INRUSH CURRENT[A]	ACIN 115V	,,,	,	rrent /Secondary inru				
		ACIN 230V	, ,	, ,	rrent /Secondary inru				
	LEAKAGE CURRENT	1	* ' '	,	ccording to IEC6236		14.1 0000 10 10 014.1/		
	VOLTAGE[V]	[]	5	12	15	24	36	48	
		ACIN 85-100V	1 -		OV or less (refer to ins		1	1 .0	
	CURRENT[A]	ACIN 100V-264V	100	50	40	25	16.7	12.5	
		ACIN 85-100V		L	OV or less (refer to ins			12.0	
	WATTAGE[W]	ACIN 100V-264V	500	600	600	600	601.2	600	
	LINE REGULATION[n		20max	48max	60max	96max	144max	192max	
	LOAD REGULATION		40max	100max	120max	150max	150max	300max	
		0 to +50℃	80max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-20 to 0°C	140max	160max	160max	160max	160max	400max	
DUTPUT	*1	 			+				
	RIPPLE NOISE[mVp-p]	0 to +50°C -20 to 0°C	120max	150max	150max	150max	200max	200max	
	*1	-	160max	180max	180max	180max	240max	500max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max	360max	480max	
		-20 to +50°C	75max	180max	180max	290max	440max	600max	
	DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 100\	·					
	HOLD-UP TIME[ms]		20typ (ACIN 100V,			1			
	OUTPUT VOLTAGE ADJUSTME		4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80	
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92	
	OVERCURRENT PROTE			of rating and recover		1	T	I	
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)						
OTHERS	REMOTE SENSING		Optional (Option -W)						
	REMOTE ON/OFF		Optional (Required external power source. Option -R)						
	INPUT-OUTPUT • RC	*3	, , , , , , , , , , , , , , , , , , , ,						
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)						
	OUTPUT • RC-FG		,		nA, DC500V 50MΩ				
	OUTPUT-RC	*3	(
	OPERATING TEMP., HUMID. AND		` '		ed), 20 - 90%RH (Nor		m (10,000 feet) max	(
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	· · · · · · · · · · · · · · · · · · ·		nsing), 9,000m (30,00				
	VIBRATION				riod, 60minutes each	along X, Y and Z ax	es		
	IMPACT			1ms, once each X, Y					
SAFETY AND	AGENCY APPROVAL	S		, , , , , , , , , , , , , , , , , , , ,	2368-1 Complies with				
NOISE	CONDUCTED NOISE		Complies with FCC	-B, VCCI-B, CISPR	22-B, EN55011-B, EN	N55022-B			
REGULATIONS	HARMONIC ATTENU	ATOR *9	Complies with IEC	61000-3-2 class A					



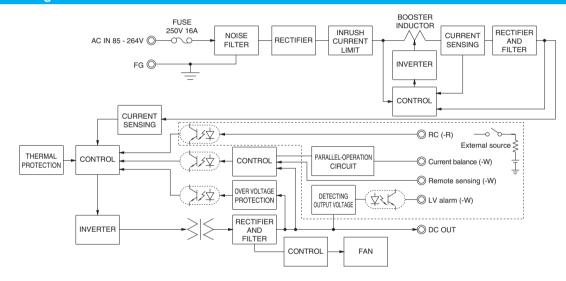
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
OTHERS	COOLING METHOD	*8 Forced cooling (internal fan)
WARRANTY	WARRANTY	*5 5 years (subject to the operating conditions)

- This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103
- See 1.6 of Instruction Manual for more details. Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25 °C.
- The BC terminal is added to option -B models. The BC terminal is
- isolated from input, output, and FG. Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction Manual for more details.
- Consult us about safety agency approvals for the models with optional functions.
- Consult us about dynamic load and input response. *8 The fan speed slows down at no load
- Consult us about other classes
 - Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
 - Parallel operation is allowed for PLA600FA models with the -W option only
 - Sound noise may be heard from the power supply when used for pulse load.

Features

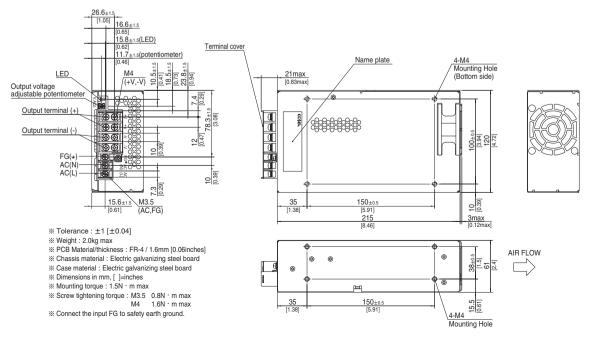
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.40 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Slow fan speed at no load
- · Complies with SEMI F-47
- · Many optional functions

Block diagram



External view

The external size of -V option, -W option and -R option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PJA1000F

PJ A 1000 F -



①Series name ②Single output ③Output wattage ④Universal input ⑤Output voltage

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	MODEL		PJA1000F-24	PJA1000F-48			
	VOLTAGE[V]						
	ACIN 100V		AC85 - 264 1 \$\phi\$ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) 12.5typ (Io=90%)				
	OUDDENTIAL	ACIN 100V					
	CURRENT[A]	ACIN 115V	- 91 ()				
	EDECITENCY[H=1	ACIN 230V	5.5typ (lo=100%)				
	FREQUENCY[Hz]	ACIN 100V	50 / 60 (47 - 63) 84typ (lo=90%)	84typ (Io=90%)			
	EEEIOIENOVIO/ 1	ACIN 100V	,	71 (/			
INPUT	EFFICIENCY[%]	ACIN 115V	85typ (lo=100%)	85typ (lo=100%) 88typ (lo=100%)			
INPUI			88typ (lo=100%)	88typ (10=100%)			
	DOWED EACTOR	ACIN 100V ACIN 115V	0.98typ (lo=90%)				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)				
		ACIN 230V	0.95typ (lo=100%) 15/30typ (lo=90%) (Primary inrush current /Secondary inrush	About the state of			
	INDUCTI CUDDENITIAT		71 7 7				
	INRUSH CURRENT[A]	ACIN 115V ACIN 230V	15/30typ (Io=100%) (Primary inrush current /Secondary inru	, , ,			
	LEAKACE CURRENT		30/30typ (Io=100%) (Primary inrush current /Secondary inru				
	LEAKAGE CURRENT VOLTAGE[V]	[IIIA]	1.5max (ACIN 240V, 60Hz, lo=100%, According to IEC6236	8-1 and DEN-AN) 48			
	VOLIAGE[V]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to in	1.17			
	CURRENT[A]	ACIN 80-115V ACIN 115V-264V	42	21			
		ACIN 115V-204V	Output derating is required at ACIN 115V or less (refer to in	I .			
	WATTAGE[W]	ACIN 65-115V ACIN 115V-264V	, , ,	1008			
			96max	192max			
	LINE REGULATION[mV] *2 LOAD REGULATION[mV] *2		150max	300max			
	-	0 to +50°C		200max			
	RIPPLE[mVp-p]	-20 to 0°C		500max			
OUTPUT		0 to +50°C	150max	300max			
	RIPPLE NOISE[mVp-p]	-20 to 0°C	180max	600max			
	٠١		240max	480max			
	TEMPERATURE REGULATION[mV]	-20 to +50°C	290max	600max			
	DRIFT[mV]	*3	96max	192max			
	START-UP TIME[ms]	***	800typ (ACIN 115V, Io=100%)	Isziliax			
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGEIM	, ,	40.80 to 55.20			
	OUTPUT VOLTAGE SETT		24.00 to 24.96	48.00 to 49.92			
PROTECTION	OVERCURRENT PROTE		Works over 105% of rating and recovers automatically	1.0.00 to 10.02			
CIRCUIT AND	OVERVOLTAGE PROTE		28.80 to 34.80	57.00 to 67.20			
OTHERS	OPERATING INDICAT		LED (Green)				
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 25mA, DC500V 50M Ω	min (At room temperature)			
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 25mA, DC500V 50M Ω				
	OUTPUT-FG	-	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω	. , ,			
	OPERATING TEMP., HUMID, AND	ALTITUDE *4	-20 to +70°C (Output derating is required), 20 - 90%RH (No.	, , ,			
	STORAGE TEMP., HUMID.AND		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max				
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes				
SAFETY AND	AGENCY APPROVAL		UL62368-1, C-UL (CSA62368-1), EN62368-1 Complies with	n DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EI				
REGULATIONS	HARMONIC ATTENU	ATOR *5	Complies with IEC61000-3-2 class A				
	I I A I I LIVE		Compiles with ECO 1000-5-2 Class A				



OTHERS	CASE SIZE/WEIGHT	150×61×240mm [5.91×2.40×9.45 inches] (Excluding terminal block and screw) (W×H×D) / 2.8kg max
OTHERS	COOLING METHOD	*6 Forced cooling (internal fan)
WARRANTY	WARRANTY	*7 5 years (subject to the operating conditions)

Drift is the change in DC output for an eight hour period after a half-hour

This is the result of measurement of the testing board with capacitors of 22 µF and 0.1 µF placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103 See 1.6 of Instruction Manual for more details.

*2 Consult us about dynamic load and input response.

- warm-up at 25°C.

 Output power derating is required. See 3.2 in Instruction Manual.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

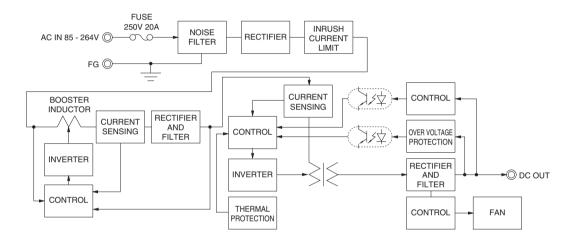
Sound noise may be heard from the power supply when used for pulse load.

- Parallel operation is not possible with this mode.
- Consult us about other classes.
- The fan speed slows down or stops at no load.
- See 3.3 in Instruction Manual for more details.

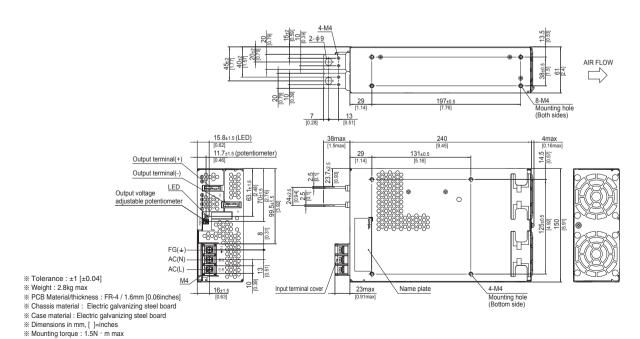
Features

- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.4 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Stop or slow fan speed at no load

Block diagram



External view



- * Screw tightening torque: 1.6N · m max Output terminal M4 tightening torque : 1.2N · m max
- Connect the input FG to safety earth ground.

PJA1500F

PJ A 1500 F -



①Series name ②Single output ③Output wattage ④Universal input ⑤Output voltage

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	MODEL		PJA1500F-24	PJA1500F-48			
	VOLTAGE[V]		AC85 - 264 1 φ (Output derating is required at AC85V - 115	V. See 1.1 and 3.2 in Instruction Manual)			
		ACIN 100V	18typ (lo=90%)				
	CURRENT[A]	ACIN 115V	16typ (lo=100%)				
		ACIN 230V	8typ (Io=100%)				
	FREQUENCY[Hz]	,	50 / 60 (47 - 63)				
		ACIN 100V	84typ (lo=90%)	84typ (Io=90%)			
	EFFICIENCY[%]	ACIN 115V	85typ (lo=100%)	84typ (lo=100%)			
INPUT		ACIN 230V	88typ (lo=100%)	87typ (Io=100%)			
		ACIN 100V	0.98typ (Io=90%)				
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)				
		ACIN 230V	0.95typ (Io=100%)				
		ACIN 100V	15/30typ (Io=90%) (Primary inrush current /Secondary inrush	sh current) (More than 10sec to re-start)			
	INRUSH CURRENT[A]	ACIN 115V	15/30typ (Io=100%) (Primary inrush current /Secondary inru	ush current) (More than 10sec to re-start)			
		ACIN 230V	30/30typ (Io=100%) (Primary inrush current /Secondary inru	ush current) (More than 10sec to re-start)			
	LEAKAGE CURRENT	[mA]	1.5max (ACIN 240V, 60Hz, Io=100%, According to IEC6236	8-1 and DEN-AN)			
	VOLTAGE[V]		24	48			
	OUDDENITIAL	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to in	struction manual 3.2)			
	CURRENT[A]	ACIN 115V-264V	64	32			
	WATTA OF 1147	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to in	struction manual 3.2)			
	WATTAGE[W]	ACIN 115V-264V	1536	1536			
	LINE REGULATION[n	nV] *2	96max	192max			
	LOAD REGULATION[mV] *2	150max	300max			
	RIPPLE[mVp-p]	0 to +50°C	120max	200max			
	*1	-20 to 0°C	160max	500max			
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C	150max	300max			
	*1	-20 to 0°C	270max	600max			
		0 to +50℃	240max	480max			
	TEMPERATURE REGULATION[mV]	-20 to +50°C	290max	600max			
	DRIFT[mV]	*3	96max	192max			
	START-UP TIME[ms]		800typ (ACIN 115V, Io=100%)				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMEN	NT RANGE[V]	20.40 to 28.50	40.80 to 55.20			
	OUTPUT VOLTAGE SETT	ING[V]	24.00 to 24.96	48.00 to 49.92			
PROTECTION	OVERCURRENT PROTE	CTION	Works over 105% of rating and recovers automatically				
CIRCUIT AND	OVERVOLTAGE PROTE	CTION[V]	28.80 to 34.80	57.00 to 67.20			
OTHERS	OPERATING INDICAT	ION	LED (Green)				
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 25mA, DC500V 50M Ω	min (At room temperature)			
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 25mA, DC500V 50M Ω	min (At room temperature)			
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω	min (At room temperature)			
	OPERATING TEMP., HUMID. AND	ALTITUDE *4	-20 to +70°C (Output derating is required), 20 - 90%RH (No	n condensing), 3,000m (10,000 feet) max			
ENVIDONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,0	00 feet) max			
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes				
SAFETY AND	AGENCY APPROVAL	s	UL62368-1, C-UL (CSA62368-1), EN62368-1, Complies wit	h DEN-AN			
			, , , , , , , , , , , , , , , , , , , ,				
NOISE	CONDUCTED NOISE		Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A, additional EMI/EMC Filter required for meeting class B Complies with IEC61000-3-2 class A				



OTHERS	CASE SIZE/WEIGHT		178×61×268mm [7.01×2.40×10.55 inches] (Excluding terminal block and screw) (W×H×D) / 3.5kg max
OTHERS	COOLING METHOD	*6	Forced cooling (internal fan)
WARRANTY	WARRANTY	*7	5 years (subject to the operating conditions)

*3 Drift is the change in DC output for an eight hour period after a half-hour

This is the result of measurement of the testing board with capacitors of $22\,\mu\,\text{F}$ and 0.1 $\mu\,\text{F}$ placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103 See 1.6 of Instruction Manual for more details.

*2 Consult us about dynamic load and input response.

- warm-up at 25°C.

 Output power derating is required. See 3.2 in Instruction Manual.
- Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

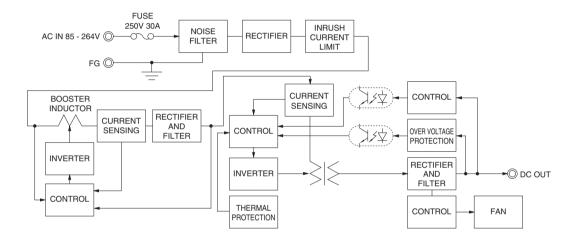
Sound noise may be heard from the power supply when used for pulse load.

- Parallel operation is not possible with this mode.
- Consult us about other classes.
- *6 The fan speed slows down or stops at no load.
- See 3.3 in Instruction Manual for more details.

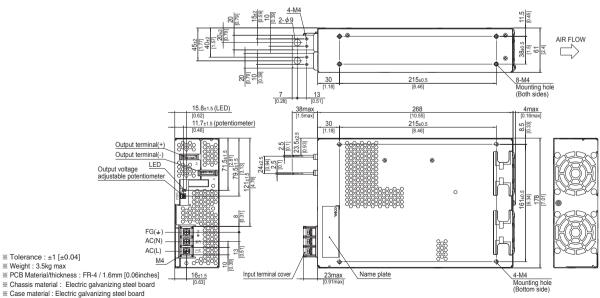
Features

- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.4 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Stop or slow fan speed at no load

Block diagram



External view



- Dimensions in mm, []=inches
 Mounting torque: 1.5N · m max
- Screw tightening torque: 1.6N · m max
- Output terminal M4 tightening torque: 1.2N · m max
 Connect the input FG to safety earth ground.