AC-DC Power Supplies Enclosed Type









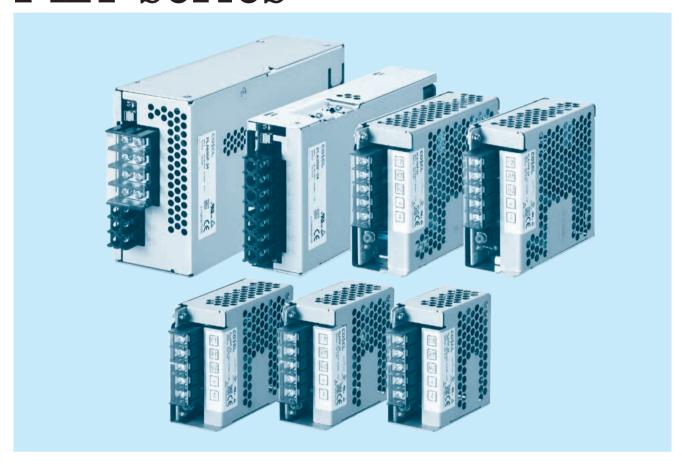








PLA-series



Feature

Low Profile (15, 30, 50, 100, 150, 300W: 1U size.

600W: 2U size)

Wide temperature range (-20℃ to +70℃, Derating is required) Harmonic attenuator (Complies with IEC61000-3-2 class A)

Universal input (AC85 - 264V, Derating is required)

Low power consumption at no load

Screw hold type terminal block (Only PLA300F and PLA600F) Complies with SEMI F-47 (Option -U : Refer to instruction manual) Many optional functions

Safety agency approvals

UL60950-1, C-UL (CSA60950-1), EN62368-1 UL508 (PLA15F-150F) approved Complies with DEN-AN

5-year warranty (See Instruction Manual)

CE marking

Low Voltage Directive

UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

EMI

Complies with FCC-B, CISPR22-B, EN55011-B, EN55022-B,

EMS Compliance: EN61204-3, EN61000-6-2

EN61000-4-2

EN61000-4-3

EN61000-4-4

EN61000-4-5

EN61000-4-6

EN61000-4-8

EN61000-4-11

PLA15F

A 15









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 *7
 C: with Coating
 J: Connector interface T : Vertical terminal block
- -N

 : 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		PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-24			
	VOLTAGE[V]			AC85 - 264 1 φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3					
	ACIN 100V		0.4typ (lo=90%)						
	CURRENT[A]	ACIN 115V	0.4typ (lo=100%)						
		ACIN 230V	0.25typ (Io=100%)						
	FREQUENCY[Hz]								
		ACIN 100V	50 / 60 (47 - 63) 72.5typ (lo=90%)	75.5typ (lo=90%)	77.0typ (lo=90%)	78.0typ (lo=90%)			
INPUT	EFFICIENCY[%]	ACIN 115V	73.5typ (Io=100%)	77.0typ (Io=100%)	78.5typ (Io=100%)	79.0typ (lo=100%)			
		ACIN 230V	75.5typ (Io=100%)	78.5typ (Io=100%)	79.5typ (Io=100%)	80.0typ (lo=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25℃ at	71 (/	1	22.27			
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25℃ a						
		ACIN 230V	32typ (Io=100%) Ta=25°C at cold start						
	LEAKAGE CURRENT		,, ,	/, 60Hz, Io=100%, According	to IEC62368-1 and DEN-AN)			
	VOLTAGE[V]	<u> </u>	5	12	15	24			
	CURRENT[A]		3	1.3	1	0.7			
		ACIN 85-115V		at ACIN 115V or less (refer to	instruction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	15.0	15.6	15.0	16.8			
	LINE REGULATION[n		20max	48max	60max	96max			
	LOAD REGULATION		40max	100max	120max	150max			
		0 to +50℃	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0°C		160max	160max	160max			
		lo=0 to 35%		240max	240max	280max			
OUTPUT		0 to +50°C		150max	150max	150max			
	RIPPLE NOISE[mVp-p] *1	-10 to 0°C		180max	180max	180max			
		lo=0 to 35%		300max	300max	320max			
		0 to +50°C		120max	150max	240max			
	TEMPERATURE REGULATION[mV]	-10 to +50°C	60max	150max	180max	290max			
	DRIFT[mV] *2		20max	48max	60max	96max			
	START-UP TIME[ms]		200typ (ACIN 115V, Io=100			out again from turning off the input voltage.			
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%) **Start-up time is 700 his typ for less than 1 minute of applying input again norm timing on the input voltage.						
	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	71 \ /	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96			
	OVERCURRENT PROTE		Works over 105% of rating a						
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)	1					
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff of	current = 10mA, DC500V 50M	Ω min (At room temperature	e)			
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff of	current = 10mA, DC500V 50M	Ω min (At room temperature	9)			
	OUTPUT-FG			rrent = 25mA, DC500V 50M Ω					
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10	0,000 feet) max				
E10//B0104E1	STORAGE TEMP., HUMID.AND	ALTITUDE	· '	Non condensing), 9,000m (30	·				
ENVIRONMENT	VIBRATION	-		minutes period, 60minutes ea					
	IMPACT		196.1m/s² (20G), 11ms, onc	ce each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	s		50-1), EN62368-1, UL508 (Ex	ccept option -J) Complies wit	th DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 class A						

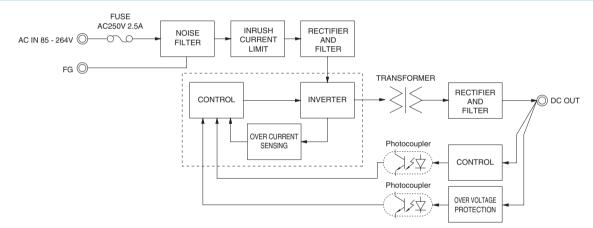
OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 inches] (Excluding terminal block and screw) (W×H×D) / 250g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

- *1 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.
 - When the load factor is 0 35%, 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°C.
- *3 As for DC input, consult us for advice.
- 44 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 35% load or less.
- *5 Output power derating is required. See 3.2 in Instruction Manual.
 *6 See 3.3 in Instruction Manual for more details.
- *7 Consult us about safety agency approvals for the models with optional functions
- *8 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 not possible with this mode.
- Sound noise may be heard from the power supply when used for pulse load.

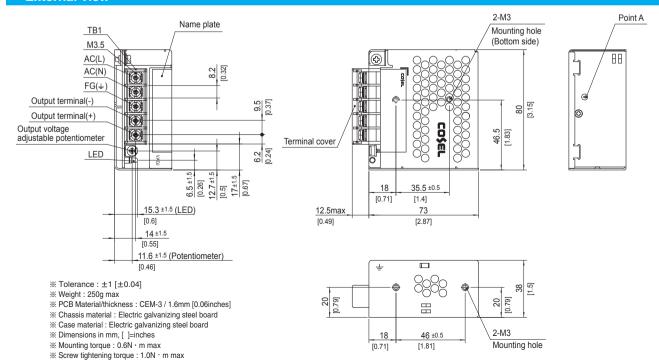
Features

- · Compact design (Depth: 73mm 2.87inches)
- · Low power consumption (1.0W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view



PLA30F

30







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 *7
 C: with Coating
 J: Connector interface
- T : Vertical terminal block
- -N

 : 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		PLA30F-5	PLA30F-12	PLA30F-15	PLA30F-24			
	VOLTAGE[V]		AC85 - 264 1 \$\phi\$ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3						
	ACIN 100V		0.7typ (lo=90%)						
	CURRENT[A]	ACIN 115V							
		ACIN 230V	0.4typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
NDUT		ACIN 100V	73.0typ (Io=90%)	80.0typ (Io=90%)	81.0typ (lo=90%)	82.5typ (Io=90%)			
NPUT	EFFICIENCY[%]	ACIN 115V	74.0typ (lo=100%)	80.5typ (lo=100%)	81.5typ (lo=100%)	83.0typ (lo=100%)			
		ACIN 230V	77.0typ (lo=100%)	81.0typ (Io=100%)	82.0typ (lo=100%)	83.5typ (lo=100%)			
		ACIN 100V	16typ (lo=90%) Ta=25℃ at co	old start					
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃ at	cold start					
		ACIN 230V	32typ (lo=100%) Ta=25℃ at	cold start					
	LEAKAGE CURRENT	[mA]	0.65max (ACIN 115V / 240V,	60Hz, Io=100%, According to	IEC62368-1 and DEN-AN)				
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		6	2.5	2	1.3			
	WATTACEIWI	ACIN 85-115V	Output derating is required at	ACIN 115V or less (refer to in	struction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	30.0	30.0	30.0	31.2			
	LINE REGULATION[n	iV] *4	20max	48max	60max	96max			
	LOAD REGULATION[mV] *4	40max	100max	120max	150max			
	DIDDI ElmVa al	0 to +50°C	80max	120max	120max	120max			
	RIPPLE[mVp-p] *1	-10 to 0℃	140max	160max	160max	160max			
UTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	150max	150max	150max			
		-10 to 0℃	160max	180max	180max	180max			
	TEMPERATURE REQUILATIONS AS	0 to +50°C	50max	120max	150max	240max			
	TEMPERATURE REGULATION[mV]	-10 to +50°C	60max	150max	180max	290max			
	DRIFT[mV]	*2	20max	48max	60max	96max			
	START-UP TIME[ms]		150typ (ACIN 115V, Io=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40			
	OUTPUT VOLTAGE SETT	ING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96			
	OVERCURRENT PROTE	CTION	Works over 105% of rating ar	nd recovers automatically					
ROTECTION	OVERVOLTAGE PROTE	CTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60			
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)						
THERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Not provided						
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)						
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At room temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (N	on condensing), 3,000m (10,0	00 feet) max				
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (N	on condensing), 9,000m (30,0	00 feet) max				
IA A IU O IAINI EIN I	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3m	inutes period, 60minutes each	along X, Y and Z axes				
	IMPACT		196.1m/s² (20G), 11ms, once	each X, Y and Z axes					
AFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA6095	0-1), EN62368-1, UL508 (Exc	ept option -J) Complies with DI	EN-AN			
IOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-	B, CISPR22-B, EN55011-B, E	N55022-B				
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3-2	class A					



OTHERS	CASE SIZE/WEIGHT	38×80×88mm [1.50×3.15×3.46 inches] (Excluding terminal block and screw) (W×H×D) / 330g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

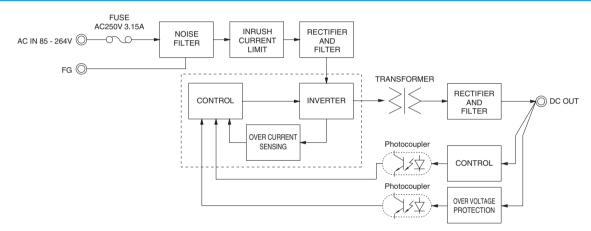
- This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku Giken RM103.
 - See 1.6 of Instruction Manual for more details.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
 *3 As for DC input, consult us for advice.
- Consult us about dynamic load and input response.
- Output power derating is required. See 3.2 in Instruction Manual.
- *6 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
- 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

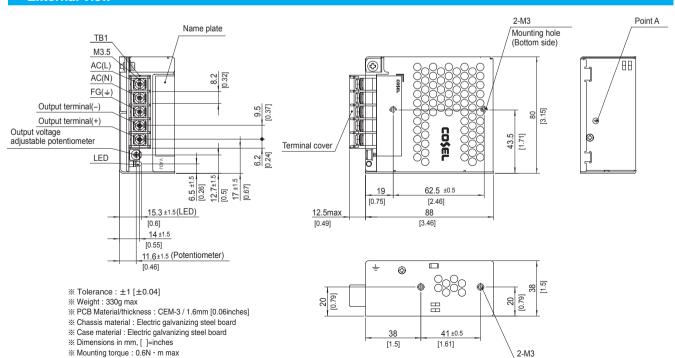
- · Compact design (Depth: 88mm 3.46inches)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

Screw tightening torque: 1.0N · m max



Mounting hole

eco

Ordering information

PLA50F

50









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.



- ⑤Output voltage
- ®Optional *7
 C: with Coating
 J: Connector interface
- T : Vertical terminal block
- -N

 : 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		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24		
	VOLTAGE[V]		AC85 - 264 1 φ (Output dera	iting is required at AC85V - 1	15V. See 1.1 and 3.2 in Instr	ruction Manual) *3		
		ACIN 100V	0.6typ (lo=90%) 0.7typ (lo=90%)					
	CURRENT[A]	ACIN 115V	0.6typ (lo=100%) 0.7typ (lo=100%)					
		ACIN 230V	0.3typ (Io=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)	, , , , ,				
		ACIN 100V	74.5typ (lo=90%)	80.0typ (Io=90%)	80.0typ (Io=90%)	81.5typ (lo=90%)		
	EFFICIENCY[%]	ACIN 115V	75.0typ (lo=100%)	80.5typ (Io=100%)	80.5typ (lo=100%)	82.0typ (lo=100%)		
NPUT		ACIN 230V	76.5typ (lo=100%)	82.0typ (Io=100%)	82.0typ (Io=100%)	84.0typ (lo=100%)		
		ACIN 100V	0.97typ (lo=90%)	0.98typ (Io=90%)	1	1		
	POWER FACTOR	ACIN 115V	0.97typ (lo=100%)	0.98typ (Io=100%)				
		ACIN 230V	0.85typ (lo=100%)	0.87typ (Io=100%)				
		ACIN 100V	16typ (Io=90%) Ta=25℃ at c	71 \ /				
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25°C at					
	manoon oonnizatipaj	ACIN 230V	32typ (lo=100%) Ta=25℃ at					
	LEAKAGE CURRENT		* ' '	, 60Hz, lo=100%, According	to IEC62368-1 and DEN-AN)		
	VOLTAGE[V]	[IIIA]	5	12	15	24		
	CURRENT[A]		8	4.3	3.5	2.2		
	CONTENTIAL	ACIN 85-115V	Output derating is required a			2.2		
	WATTAGE[W]	ACIN 115V-264V	40.0	51.6	52.5	52.8		
	LINE REGULATION[n		20max	48max	60max	96max		
	LOAD REGULATION		40max	100max	120max	150max		
	LOAD REGULATION[I	0 to +45℃		120max	120max	120max		
	RIPPLE[mVp-p] *1		140max	160max	160max			
OUTDUT						160max		
DUTPUT	RIPPLE NOISE[mVp-p] *1	0 to +45℃		150max	150max	150max		
		-10 to 0°C	160max	180max	180max	180max		
	TEMPERATURE REGULATION[mV]	0 to +45°C	50max	120max	150max	240max		
	, ,	-10 to +45℃	60max	150max	180max	290max		
	DRIFT[mV]	*2	20max	48max	60max	96max		
	START-UP TIME[ms]		350typ (ACIN 115V, Io=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMEN			10.80 to 13.20	13.50 to 16.50	21.60 to 26.40		
	OUTPUT VOLTAGE SETT		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96		
	OVERCURRENT PROTE		Works over 105% of rating a	· · · · · · · · · · · · · · · · · · ·				
PROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60		
CIRCUIT AND	OPERATING INDICAT	ION	LED (Green)					
OTHERS	REMOTE SENSING		Not provided					
	REMOTE ON/OFF		Not provided					
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)					
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)					
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At room temperature)					
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max					
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (N	lon condensing), 9,000m (30	,000 feet) max			
INTIMINITAL	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3n	ninutes period, 60minutes ea	ch along X, Y and Z axes			
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA6095	60-1), EN62368-1, UL508 (Ex	cept option -J) Complies wit	h DEN-AN		
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-	B, CISPR22-B, EN55011-B,	EN55022-B			
REGULATIONS	HARMONIC ATTENU		Complies with IEC61000-3-2 class A					



OTHERS	CASE SIZE/WEIGHT	38×80×99mm [1.50×3.15×3.90 inches] (Excluding terminal block and screw) (W×H×D) / 400g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)

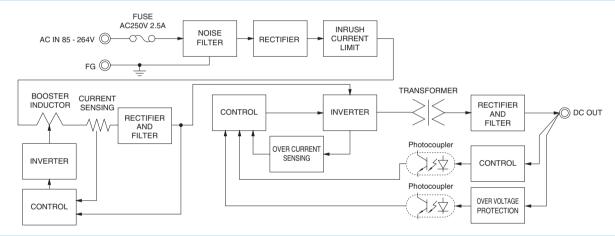
- This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
 - See 1.6 of Instruction Manual for more details.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 As for DC input, consult us for advice.
- Consult us about dynamic load and input response.
- Output power derating is required. See 3.2 in Instruction Manual.
- *6 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
- 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.

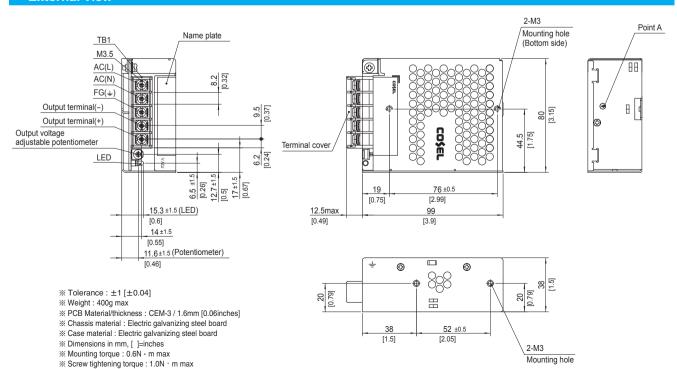
Features

- · Compact design (Depth: 99mm 3.90inches)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view



PLA100F

100



eco







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 *7
 C: with Coating
 R: Remote on/off

(Required external power source)
J : Connector interface

T : Vertical terminal block
-N□ : 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 "PBA100F-5-N" about 5V output with case cover.

<u> </u>	ICATIONS			100F-5-N" about 5V outp					
	MODEL		PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48		
	VOLTAGE[V]		AC85 - 264 1 φ (Outpu	t derating is required at	AC85V - 115V. See 1.1	and 3.2 in Instruction M	anual) *3		
	ACIN 100V		1.2typ (lo=90%)						
	CURRENT[A]	ACIN 115V	1.1typ (lo=100%)						
		ACIN 230V	0.6typ (lo=100%)						
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		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%)		
INPUT		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	s stopped at AC250V or	more			
		ACIN 100V	16typ (Io=90%) Ta=25°						
	INRUSH CURRENT[A]	ACIN 115V	16typ (Io=100%) Ta=25						
	INTOON CONNENT[A]	ACIN 230V	32typ (lo=100%) Ta=25						
	LEAKAGE CURRENT			240V, 60Hz, Io=100%, A	According to IEC62269	1 and DEN ANI)			
	VOLTAGE[V]	[IIIA]	12	15	24	36	48		
	VOLIAGE[V]	ACIN 85-115V		ired at ACIN 115V or les		1	40		
	CURRENT[A]	ACIN 85-115V ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1		
		_		ļ			2.1		
	WATTAGE[W]	ACIN 85-115V		ired at ACIN 115V or les	T .		100.0		
	LINE DECLI ATION	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8		
	LINE REGULATION[n		48max	60max	96max	144max	192max		
	LOAD REGULATION		100max	120max	150max	150max	300max		
	[mV] *4	lo=0 to 30%							
ОИТРИТ	RIPPLE[mVp-p]	0 to +40°C	120max	120max	120max	150max	150max		
	*1	-10 to 0°C	160max	160max	160max	200max	400max		
	lo: load factor	lo=0 to 30%	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	lo=0 to 30%	600max	600max	600max	600max	600max		
	TEMPERATURE REGULATION[mV]	0 to +40°C	120max	150max	240max	360max	480max		
	TEMPERATURE REGULATION[IIV]	-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			ting and recovers autom					
PROTECTION	OVERVOLTAGE PROTE								
CIRCUIT AND	OPERATING INDICAT		LED (Green)						
OTHERS	REMOTE SENSING		Not provided						
-	REMOTE ON/OFF		Optional (Required external power source. Option -R)						
	INPUT-OUTPUT • RC	*9	<u> </u>	toff current = 10mA, DC		om temperature)			
	INPUT-FG			toff current = 10mA, DC					
SOLATION	OUTPUT • RC-FG	*9		ff current = 100mA, DC	,				
	OUTPUT-RC	*9		ff current = 100mA, DCs					
		ALTITUDE *-			· · · · · · · · · · · · · · · · · · ·		t) may		
	OPERATING TEMP.,HUMID.AND			erating is required), 20 -			u) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALITIUDE		RH (Non condensing), 9					
	VIBRATION			G), 3minutes period, 60r		and ∠ axes			
	IMPACT		. ,.	, once each X, Y and Z					
SAFETY AND	AGENCY APPROVAL	S		A60950-1), EN62368-1,		J) Complies with DEN-A	N		
NOISE REGULATIONS	CONDUCTED NOISE			VCCI-B, CISPR22-B, EN	N55011-B, EN55022-B				
	HARMONIC ATTENUA	ATOR **	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
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

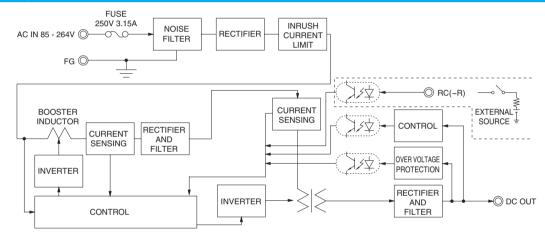
- *1 This is the result of measurement of the testing board with canacitors of 22 U.F. and 0.1 U.F. placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.
 - When the load factor is 0 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.
- Drift is the change in DC output for an eight hour period after a half-
- hour warm-up at 25℃.
- As for DC input, consult us for advice. 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 damaged.
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for pulse load.

Features

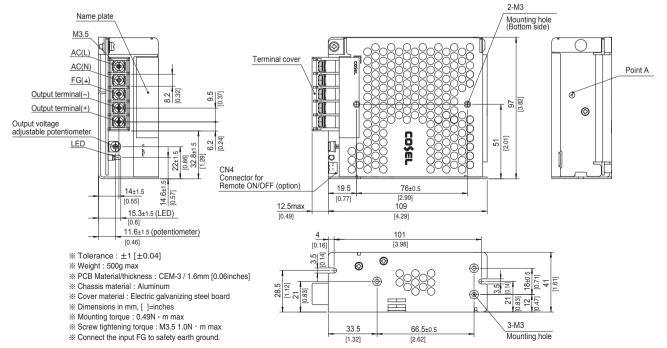
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of -R option, -J option, -N1 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PLA150F

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 *7
 C: with Coating
 R: Remote on/off (Required external
 - power source)
 J : Connector interface
- T : Vertical terminal block -N: 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 "PBA150F-5-N" about 5V output with case cover.

			·								
MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48					
VOLTAGE[V]			t derating is required at	AC85V - 115V. See 1.1 a	and 3.2 in Instruction Ma	ınual) *3					
	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%)					
	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	0.95typ (lo=100%) * F	Power factor correction is	s stopped at AC250V or	more.						
	ACIN 100V	16typ (lo=90%) Ta=25°	C at cold start								
INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25	°C at cold start								
	ACIN 230V	32typ (lo=100%) Ta=25	°C at cold start								
LEAKAGE CURRENT	[mA]			According to IEC62368-1	and DEN-AN)						
		12	15	24	36	48					
	ACIN 85-115V	Output derating is regu	ired at ACIN 115V or les	ss (refer to instruction ma	anual 3.2)	1					
CURRENT[A]		12.5	10	6.4	4.2	3.2					
	ACIN 85-115V			ss (refer to instruction ma							
WATTAGE[W]	ACIN 115V-264V		·	, '	· · · · · · · · · · · · · · · · · · ·	153.6					
LINE REGULATIONIM			+			192max					
•						300max					
						1000					
			Ť	,	150max	150max					
*1	ļ		+		+	400max					
lo: load factor						500max					
DIDDI E NOISE[m\/n-n]			+		+	200max					
*1						500max					
lo: load factor			-			600max					
						480max					
TEMPERATURE REGULATION[mV]						600max					
DRIFT[mV]			-		+	192max					
				Outland	11111000	Tozmax					
	T RANGEIVI	** *	· '	21.60 to 26 40	32.40 to 39.60	43.20 to 52.80					
			ļ		+	48.00 to 49.92					
					1 2 3.00 to 37.11	1.0.00 10 10.02					
			, -		41.40 to 50 40	54.00 to 67.20					
		Optional (Required external power source. Option -R)									
REMOTE ON/OFF		i Optional (Required exte	ernai bower source. Onti	ion -R)							
REMOTE ON/OFF INPUT-OUTPUT • RC	*9			· · · · · · · · · · · · · · · · · · ·	m temperature)						
INPUT-OUTPUT • RC	*9	AC3,000V 1minute, Cu	toff current = 10mA, DC	500V 50MΩ min (At roo							
INPUT-OUTPUT • RC INPUT-FG	*9	AC3,000V 1minute, Cu AC2,000V 1minute, Cu	toff current = 10mA, DC toff current = 10mA, DC	500V 50M Ω min (At roo 500V 50M Ω min (At roo	m temperature)						
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG	*9	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC	$500V~50M\Omega~$ min (At roo $500V~50M\Omega~$ min (At roo $500V~50M\Omega~$ min (At roo $500V~50M\Omega~$ min (At roo	m temperature)						
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC	*9 *9	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC	$500V$ $50M\Omega$ min (At roo	m temperature) m temperature) m temperature)) max					
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC OPERATING TEMP., HUMID. AND A	*9 *9 ALTITUDE *5	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto -20 to +70°C (Output de	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC erating is required), 20 -	$500V$ $50M\Omega$ min (At roo 90% RH (Non condensin	m temperature) m temperature) n temperature) ng), 3,000m (10,000 feet) max					
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC OPERATING TEMP,HUMID.AND STORAGE TEMP,HUMID.AND	*9 *9 ALTITUDE *5	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto -20 to +70°C (Output do -20 to +75°C, 20 - 90%	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC ff current = 100mA, DC erating is required), 20 - RH (Non condensing), 9	$500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo 90% RH (Non condensin $900000~0000$ (30,000 feet) max	m temperature) m temperature) m temperature) ng), 3,000m (10,000 feet) max					
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC OPERATING TEMP, HUMID.AND STORAGE TEMP, HUMID.AND VIBRATION	*9 *9 ALTITUDE *5	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto -20 to +70°C (Output do -20 to +75°C, 20 - 90% 10 - 55Hz, 19.6m/s² (20	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC ff current = 100mA, DC erating is required), 20 - RH (Non condensing), 9 G), 3minutes period, 60r	$500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo 90% RH (Non condensin $0.000m$ (30,000 feet) maximutes each along X, Y	m temperature) m temperature) m temperature) ng), 3,000m (10,000 feet) max					
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC OPERATING TEMP, HUMID.AND STORAGE TEMP, HUMID.AND VIBRATION IMPACT	*9 *9 ALTITUDE *5 ALTITUDE	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto -20 to +70°C (Output de -20 to +75°C, 20 - 90% 10 - 55Hz, 19.6m/s² (20 196.1m/s² (20G), 11ms	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC erating is required), 20 - RH (Non condensing), 9 G), 3minutes period, 60r s, once each X, Y and Z	$500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo 90% RH (Non condensir $0.000m$ (30,000 feet) maximinutes each along X, Y axes	m temperature) n temperature) n temperature) ng), 3,000m (10,000 feet and Z axes						
INPUT-OUTPUT • RC INPUT-FG OUTPUT • RC-FG OUTPUT-RC OPERATING TEMP, HUMID.AND STORAGE TEMP, HUMID.AND VIBRATION	*9 *9 ALTITUDE *5 ALTITUDE	AC3,000V 1minute, Cu AC2,000V 1minute, Cu AC500V 1minute, Cuto AC500V 1minute, Cuto -20 to +70°C (Output de -20 to +75°C, 20 - 90% 10 - 55Hz, 19.6m/s² (20 196.1m/s² (20G), 11ms UL60950-1, C-UL (CSA	toff current = 10mA, DC toff current = 10mA, DC ff current = 100mA, DC ff current = 100mA, DC erating is required), 20 - RH (Non condensing), 9 G), 3minutes period, 60r s, once each X, Y and Z	$500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo $500V~50M\Omega$ min (At roo 90% RH (Non condensir $9,000m~(30,000~feet)$ maximinutes each along X, Y axes	m temperature) n temperature) n temperature) ng), 3,000m (10,000 feet and Z axes						
	VOLTAGE[V] CURRENT[A] FREQUENCY[Hz] EFFICIENCY[%] POWER FACTOR INRUSH CURRENT[A] LEAKAGE CURRENT VOLTAGE[V] CURRENT[A] WATTAGE[W] LINE REGULATION[m LOAD REGULATION[mV] [mV] *4 RIPPLE[mVp-p] *1 lo: load factor TEMPERATURE REGULATION[mV] DRIFT[mV] START-UP TIME[ms] OUTPUT VOLTAGE ADJUSTMEN OUTPUT VOLTAGE SETTI OVERCURRENT PROTE OVERC	VOLTAGE[V]	MODEL	MODEL	AC85 - 264 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	MODEL PLA150F-12 PLA150F-15 PLA150F-24 PLA150F-36					



OTHERS	CASE SIZE/WEIGHT	41×97×129mm [1.61×3.82×5.08 inches] (Excluding terminal block and screw) (W×H×D) / 600g max
OTHERS	COOLING METHOD	Convection
WARRANTY	WARRANTY *6	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

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

hour warm-up at 25℃.

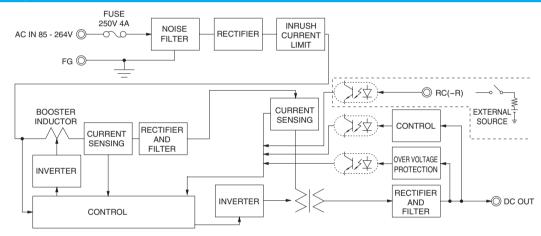
- As for DC input, consult us for advice
- Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- Output power derating is required. See 3.2 in Instruction Manual.
- See 3.3 in Instruction 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 damaged.
- Parallel operation is not possible with this mode
- Sound noise may be heard from the power supply when used for pulse load.

Features

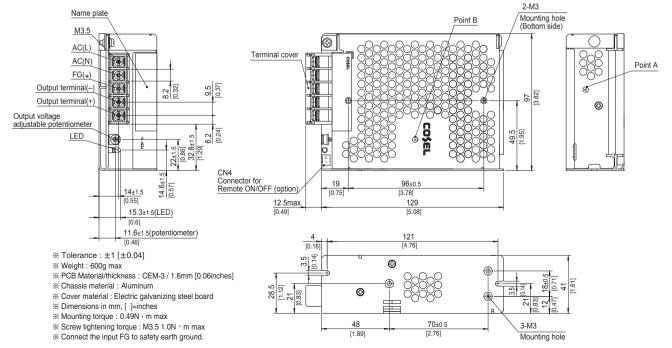
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of -R option, -J option, -N1 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PLA300F

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.

- ①Series name ②Single output ③Output wattage ④Universal input
- ⑤Output voltage
- (a) Output voltage
 (b) Optional *7
 C: with Coating
 G: Low leakage current
 V: External potentiometer for
- output voltage adjustment U: Low input voltage stop (Complies with SEMI F-47) R: Remote on/off
- (Required external power source)
- F4: Low speed fan
- T2: Horizontal terminal block (non-screw-hold type)

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		PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48	
	VOLTAGE[V]		AC85 - 264 1 φ (Οι	utput derating is requ	uired at AC85V - 115	V. See 1.1 and 3.2 in	Instruction Manual)	*3	
	ACIN 100		3.1typ (lo=90%) 3.4typ (lo=90%)						
	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)						
		ACIN 100V	73typ (lo=90%)	78typ (lo=90%)	79typ (lo=90%)	81typ (lo=90%)	81typ (lo=90%)	82typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	78typ (lo=100%)	80typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%)	
INPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	
		ACIN 100V	0.98typ (lo=90%)						
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)						
		ACIN 230V	0.95typ (lo=100%)						
		ACIN 100V	20typ (lo=90%) Ta=	=25℃ at cold start					
	INRUSH CURRENT[A]	ACIN 115V	20typ (Io=100%) Ta	=25℃ at cold start					
		ACIN 230V	40typ (lo=100%) Ta	=25℃ at cold start					
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115	5V / 240V, 60Hz, lo=	100%, According to I	EC62368-1 and DE	N-AN)		
	VOLTAGE[V]		5	12	15	24	36	48	
	CURRENT[A]	ACIN 85-115V	Output derating is r	equired at ACIN 115	V or less (refer to ins	struction manual 3.2)		
	CORNENT[A]	ACIN 115V-264V	50	25	20	12.5	8.4	6.3	
	WATTA CEIMI	ACIN 85-115V	Output derating is r	equired at ACIN 115	V or less (refer to ins	struction manual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	250	300	300	300	302.4	302.4	
	LINE REGULATION[n	nV] *4	20max	48max	60max	96max	144max	192max	
	LOAD REGULATION	mV] *4	40max	100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	120max	120max	150max	150max	
OUTPUT	*1	-10 to 0°C	140max	160max	160max	160max	160max	400max	
OUIPUI	RIPPLE NOISE[mVp-p]	0 to +50°C	120max	150max	150max	150max	200max	200max	
	*1	-10 to 0°C	160max	180max	180max	180max	240max	500max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[MV]	-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 115V	, lo=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 115V,	lo=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	OUTPUT VOLTAGE ADJUSTMENT 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]	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	ECTION	Works over 105% of	of rating and recovers	s automatically				
PROTECTION	OVERVOLTAGE PROTE	CTION[V]	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	TION	LED (Green)						
OTHERS	REMOTE SENSING		Not provided						
	REMOTE ON/OFF		Optional (Required	external power sour	ce. Option -R)				
	INPUT-OUTPUT • RC	*10	AC3,000V 1minute	Cutoff current = 10	mA, DC500V 50M Ω	min (At room tempe	rature)		
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)						
ISOLATION	OUTPUT • RC-FG	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)						
	OUTPUT-RC	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At room temperature)						
	OPERATING TEMP., HUMID. AND	ALTITUDE *5	` '		d), 20 - 90%RH (Nor		m (10,000 feet) max		
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 20 - 9	00%RH (Non conder	nsing), 9,000m (30,00	00 feet) max			
LITTIIONWENT	VIBRATION				iod, 60minutes each	along X, Y and Z ax	es		
	IMPACT		196.1m/s ² (20G), 1	1ms, once each X, Y	and Z axes				
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA60950-1), EN62	368-1 Complies with	DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC	-B, VCCI-B, CISPR2	22-B, EN55011-B, EN	N55022-B			
REGULATIONS	HARMONIC ATTENUA	ATOR *9	Complies with IEC6	61000-3-2 class A					



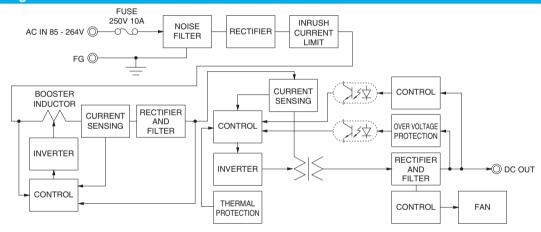
OTHERS	CASE SIZE/WEIGHT	102 × 41 × 190mm [4.02 × 1.61 × 7.48 inches] (Excluding terminal block and screw) (W × H × D) / 1.0kg max				
OTHERS	COOLING METHOD *8	Forced cooling (internal fan)				
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)				

- *1 This is the result of measurement of the testing board with capacitors of 22 LIE and 0.1 LIE 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.
- *2 Drift is the change in DC output for an eight hour period after a half-hour arm-up at 25°C Output power derating is required. As for DC input, consult us for advice.
- 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.
- *10 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

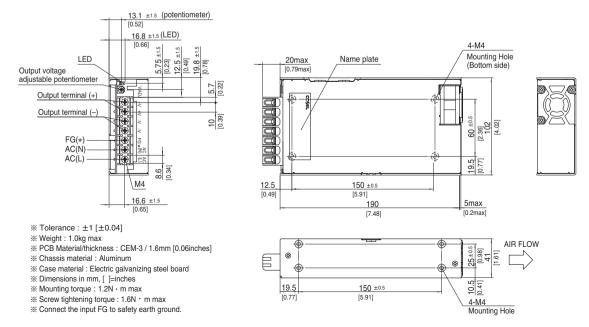
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- ·Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

Block diagram



External view

The external size of -V option, -R option, and -T2 option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PLA600F

PL A 600 F - - -



*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.

*Please consider "PJA600F-5" about 5V output.

	MODEL		PLA600F-12	PLA600F-15	PLA600F-24	PLA600F-36	PLA600F-48	
1	VOLTAGE[V]		AC85 - 264 1 φ (Outp	ut derating is required	at AC85V - 115V. See 1.	1 and 3.2 in Instruction M	/lanual) *4	
	ACIN 100V		6.7typ (lo=90%)					
	CURRENT[A]	ACIN 115V						
		ACIN 230V						
Ī	FREQUENCY[Hz]		50 / 60 (47 - 63)					
		ACIN 100V	81typ (lo=90%)	81typ (lo=90%)	84typ (lo=90%)	85typ (lo=90%)	85typ (lo=90%)	
	EFFICIENCY[%]	ACIN 115V	81typ (lo=100%)	81typ (lo=100%)	84typ (lo=100%)	85typ (lo=100%)	85typ (lo=100%)	
IPUT		ACIN 230V	84typ (lo=100%)	84typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	88typ (lo=100%)	
	POWER FACTOR	ACIN 100V	0.98typ (lo=90%)					
		ACIN 115V	0.98typ (lo=100%)					
		ACIN 230V	0.95typ (lo=100%)					
	INRUSH CURRENT[A]	ACIN 100V	20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		ACIN 115V	20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		ACIN 230V	40/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
Ī	LEAKAGE CURRENT[mA]		1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC62368-1 and DEN-AN)					
1	VOLTAGE[V]		12	15	24	36	48	
	CURRENTIAL	ACIN 85-115V	Output derating is req	uired at ACIN 115V or	ess (refer to instruction i	manual 3.2)		
'	CURRENT[A]	ACIN 115V-264V	50	40	25	16.7	12.5	
Γ,	WATTACEIWI	ACIN 85-115V	Output derating is req	uired at ACIN 115V or	ess (refer to instruction i	manual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	600	600	600	601.2	600	
Ī	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
Ī	LOAD REGULATION[mV] *8	100max	120max	150max	150max	300max	
Ī	RIPPLE[mVp-p]	0 to +50°C	120max	120max	120max	150max	150max	
UTPUT		-20 to 0°C	160max	160max	160max	160max	400max	
UIPUI I	RIPPLE NOISE[mVp-p] *1	0 to +50°C	150max	150max	150max	200max	200max	
		-20 to 0°C	180max	180max	180max	240max	500max	
Γ,	TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	240max	360max	480max	
Ľ		-20 to +50°C	180max	180max	290max	440max	600max	
1	DRIFT[mV] *2		48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 115V, Io=100%)					
Ī	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo=	=100%)				
(OUTPUT VOLTAGE ADJUSTMENT 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 SETTING[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 PROTECTION		Works over 105% of rating and recovers automatically					
ROTECTION	OVERVOLTAGE PROTE	VERVOLTAGE PROTECTION[V]		17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20	
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)					
THERS	REMOTE SENSING		Optional (Option -W)					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
T I	INPUT-OUTPUT • RC *3		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)					
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At room temperature)					
CLATION	OUTPUT • RC-FG *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At room temperature)					
	OUTPUT-RC *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At room temperature)					
(OPERATING TEMP., HUMID. AND ALTITUDE *5		-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max					
VIRONMENT	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
AAIUOIAIAIEIAI	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					
AFETY AND	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN					
OISE	CONDUCTED NOISE		Complies with FCC-B,	, VCCI-B, CISPR22-B,	EN55011-B, EN55022-B			
EGULATIONS I	HARMONIC ATTENUA	ATOR *10	Complies with IEC610	000-3-2 class A			<u> </u>	





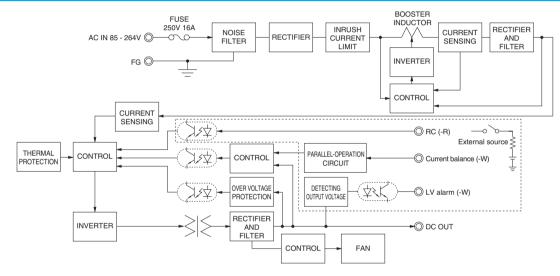
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- 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.
- As for DC input, consult us for advice
- 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 *8 Consult us about dynamic load and input response
- The fan speed slows down at no load
- *10 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 PLA600F models with the –W option only.
- Sound noise may be heard from the power supply when used for pulse load.

Features

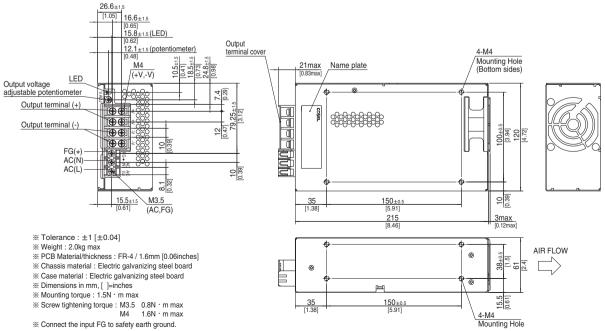
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 2U height = 61 mm or 2.40 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

Block diagram



External view

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PLA300F-15-C PLA300F-15-G PLA300F-15-U PLA300F-15-V PLA300F-24 PLA300F-24-C PLA300F-24-G
PLA300F-24-U PLA300F-24-V PLA300F-36 PLA300F-36-C PLA300F-36-G PLA300F-36-U PLA300F-36-V
PLA300F-48 PLA300F-48-C PLA300F-48-G PLA300F-48-U PLA300F-48-V PLA300F-5-C PLA300F-5-C PLA300F-5-G PLA300F-5-U PLA300F-5-V PLA600F-12-C PLA600F-12-G PLA600F-12-U PLA600F-12-V
PLA600F-15 PLA600F-15-C PLA600F-15-G PLA600F-15-U PLA600F-15-V PLA600F-24 PLA600F-24-C PLA600F-24-C PLA600F-36-C PLA600F-36-G PLA600F-36-U PLA600F-36-V
PLA600F-48 PLA600F-48-C PLA600F-48-G PLA600F-48-U PLA600F-48-V PLA600F-5-C PLA600F-5-C PLA600F-5-G PLA600F-5-C PLA600F-5-