

	MODEL		PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-24				
	VOLTAGE[V]		AC85 - 264 1 φ (Output de	erating is required at AC85V	- 115V. See 1.1 and 3.2 in Inst	ruction Manual) *3				
		ACIN 100V	0.4typ (lo=90%)			,				
	CURRENT[A]	ACIN 115V	0.4typ (lo=100%)							
		ACIN 230V	0.25typ (lo=100%)							
	FREQUENCY[Hz]	1	50 / 60 (47 - 63)							
		ACIN 100V	72.5typ (Io=90%)	75.5typ (lo=90%)	77.0typ (Io=90%)	78.0typ (lo=90%)				
NPUT	EFFICIENCY[%]	ACIN 115V	73.5typ (lo=100%)	77.0typ (lo=100%)	78.5typ (lo=100%)	79.0typ (lo=100%)				
		ACIN 230V	75.5typ (lo=100%)	78.5typ (lo=100%)	79.5typ (lo=100%)	80.0typ (lo=100%)				
		ACIN 100V	16typ (lo=90%) Ta=25°C a	, ,						
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃	at cold start						
		ACIN 230V	32typ (lo=100%) Ta=25℃							
	LEAKAGE CURRENT	[mA]	0.30max (ACIN 115V / 240	0V, 60Hz, Io=100%, Accordin	ng to IEC60950-1 and DEN-AN	1)				
	VOLTAGE[V]		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[mV] *4		20max	48max	60max	96max				
	LOAD REGULATION	 mV] *4	40max	100max	120max	150max				
	RIPPLE[mVp-p] *1	0 to +50℃	80max	120max	120max	120max				
		-10 to 0℃		160max	160max	160max				
		lo=0 to 35%	160max	240max	240max	280max				
UTPUT	RIPPLE NOISE[mVp-p] *1	0 to +50℃	120max	150max	150max	150max				
		-10 to 0℃	160max	180max	180max	180max				
		lo=0 to 35%		300max	300max	320max				
		0 to +50℃	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]		200typ (ACIN 115V, Io=10	0%) *Start-up time is 700 ms ty	p for less than 1 minute of applying in	put again from turning off the input volta				
	HOLD-UP TIME[ms]		20typ (ACIN 115V, lo=100	%)						
	OUTPUT VOLTAGE ADJUSTME	T 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		5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96				
	OVERCURRENT PROTI			and recovers automatically						
ROTECTION	OVERVOLTAGE PROTE		5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60				
IRCUIT AND	OPERATING INDICAT		LED (Green)	1	1	1				
THERS	REMOTE SENSING		Not provided							
	REMOTE ON/OFF		Not provided							
	INPUT-OUTPUT			current = 10mA, DC500V 50	$M\Omega$ min (At room temperature	e)				
OLATION	INPUT-FG		AC2,000V 1minute, Cutoff	current = 10mA, DC500V 50	$M\Omega$ min (At room temperature	e)				
	OUTPUT-FG				$1\Omega$ min (At room temperature)	·				
	OPERATING TEMP., HUMID.AND	ALTITUDE *5	-20 to +70℃, 20 - 90%RH	(Non condensing), 3,000m (	10,000 feet) max					
	STORAGE TEMP., HUMID.AND			(Non condensing), 9,000m (						
NVIRONMENT	VIBRATION			3minutes period, 60minutes						
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, or							
AFETY AND	AGENCY APPROVAL	s			8, UL508 (Except option -J) C	omplies with DEN-AN				
IOISE	CONDUCTED NOISE		, ,	CI-B, CISPR22-B, EN55011-		·				
		ATOR *8	Complies with IEC61000-3							

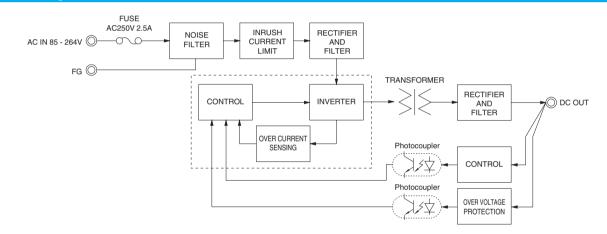


OTHERS	CASE SIZE/WEIGHT	38×80×73mm [1.50×3.15×2.87 ir	nche	s] (Excluding terminal block and screw) (W×H×D) / 250g max				
UITERS	COOLING METHOD	onvection						
WARRANTY	WARRANTY *6	5 years (subject to the operating con	ditio	ns)				
mm from th Giken RM1 See 1.6 of When the I	ne output terminals by a 20 MHz oscilloscope 03. Instruction Manual for more details.	th capacitors of 22 µ F and 0.1 µ F placed at 150 or a ripple-noise meter equivalent to Keisoku- loss is reduced by burst operation, which will cations.	*6 *7	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. Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.				
	change in DC output for an eight hour peri- nput, consult us for advice.	od after a half-hour warm-up at 25℃.	*	Parallel operation is not possible with this mode. Sound noise may be heard from the power supply when used for pulse load.				
*4 Consult us		sure the output voltage by using the average mode or less.		ouna noise may be neara nom me power suppry when used to parse toad.				

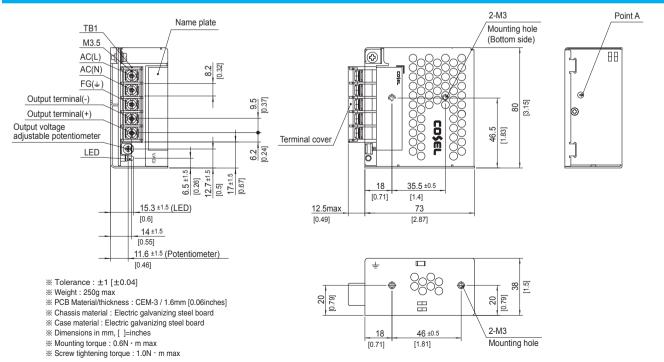
#### Features

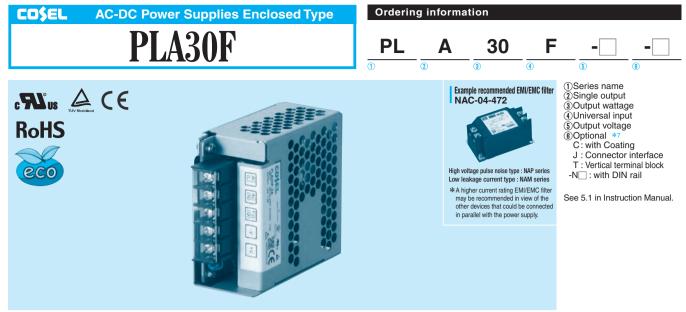
- · Compact design (Depth: 73mm 2.87inches)
- · Low power consumption (1.0W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### External view





N	NODEL		PLA30F-5	PLA30F-12	PLA30F-15	PLA30F-24				
v	/OLTAGE[V]		AC85 - 264 1 ¢ (Output dera	ting is required at AC85V - 1	I5V. See 1.1 and 3.2 in Instr	ruction Manual) *3				
		ACIN 100V	0.7typ (lo=90%)							
c	CURRENT[A]	ACIN 115V	0.7typ (lo=100%)							
		ACIN 230V	0.4typ (lo=100%)							
F	REQUENCY[Hz]		50 / 60 (47 - 63)							
		ACIN 100V	73.0typ (lo=90%)	80.0typ (lo=90%)	81.0typ (lo=90%)	82.5typ (lo=90%)				
E	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 (lo=100%)	82.0typ (lo=100%)	83.5typ (lo=100%)				
		ACIN 100V	16typ (Io=90%) Ta=25℃ at c	old start						
INR	NRUSH CURRENT[A]	ACIN 115V	Styp (lo=100%) Ta=25°C at cold start							
		ACIN 230V	32typ (Io=100%) Ta=25℃ at	cold start						
L	EAKAGE CURRENT	[mA]	0.65max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)							
V	/OLTAGE[V]		5	12	15	24				
C	CURRENT[A]		6	2.5	2	1.3				
v		ACIN 85-115V	Output derating is required a	t ACIN 115V or less (refer to	instruction manual 3.2)					
WAID	WATTAGE[W]	ACIN 115V-264V	30.0	30.0	30.0	31.2				
L	LINE REGULATION[mV] *4		20max	48max	60max	96max				
L	LOAD REGULATION[mV] *		40max	100max	120max	150max				
	RIPPLE[mVp-p] *1	0 to +50℃	80max	120max	120max	120max				
		-10 to 0℃	140max	160max	160max	160max				
DUTPUT		0 to +50℃	120max	150max	150max	150max				
n	NPPLE NOISE[IIIvp-p] *1	-10 to 0℃	160max	180max	180max	180max				
		0 to +50℃	50max	120max	150max	240max				
10	TEMPERATURE REGULATION[mV] -10 to +50°C		60max	150max	180max	290max				
D	DRIFT[mV] *2		20max	48max	60max	96max				
S	START-UP TIME[ms]		150typ (ACIN 115V, Io=100%	6)						
Н	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)							
0	OUTPUT VOLTAGE ADJUSTMEN	IT RANGE[V]	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40				
C	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				
C	OVERCURRENT PROTE	CTION	Works over 105% of rating an	nd recovers automatically						
	OVERVOLTAGE PROTE	CTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60				
	OPERATING INDICAT	ION	LED (Green)							
THERS F	REMOTE SENSING		Not provided							
F	REMOTE ON/OFF		Not provided							
11	NPUT-OUTPUT		AC3,000V 1minute, Cutoff cu	urrent = 10mA, DC500V 50M	$\Omega$ min (At room temperature	e)				
SOLATION II	NPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)							
C	OUTPUT-FG		AC500V 1minute, Cutoff curr	rent = 25mA, DC500V 50M $\Omega$	min (At room temperature)					
0	PERATING TEMP., HUMID.AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (N	Ion condensing), 3,000m (10,	000 feet) max					
	STORAGE TEMP., HUMID.AND	ALTITUDE		Ion condensing), 9,000m (30,						
V	/IBRATION			ninutes period, 60minutes eac	ch along X, Y and Z axes					
11	MPACT		196.1m/s2 (20G), 11ms, once	e each X, Y and Z axes						
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA6095	0-1), EN60950-1, EN50178,	UL508 (Except option -J) Co	omplies with DEN-AN				
	CONDUCTED NOISE		Complies with FCC-B, VCCI-	B, CISPR22-B, EN55011-B,	EN55022-B					
REGULATIONS H	ARMONIC ATTENUA	ATOR *8	Complies with IEC61000-3-2	class A						



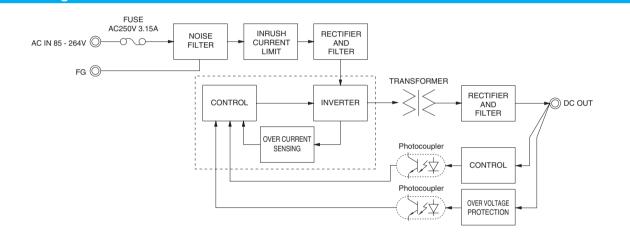
OTHERS	CASE SIZE/WEIGHT	38×80×88mm [1.50×3.15×3.46 i	38×80×88mm [1.50×3.15×3.46 inches] (Excluding terminal block and screw) (W×H×D) / 330g max							
UTHENS	COOLING METHOD	Convection								
WARRANTY	WARRANTY *6	5 years (subject to the operating cor	ditio	าร)						
mm from th Giken RM1	ne output terminals by a 20 MHz oscilloscope	th capacitors of 22 μ F and 0.1 μ F placed at 150 or a ripple-noise meter equivalent to Keisoku-		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.						
*2 Drift is the	change in DC output for an eight hour peri	od after a half-hour warm-up at 25℃.	*	Parallel operation is not possible with this mode.						
*3 As for DC is	nput, consult us for advice.		*	Sound noise may be heard from the power supply when used for pulse load.						
*4 Consult us	about dynamic load and input response.									
*5 Output pow	ver derating is required. See 3.2 in Instruction	Manual.								
*6 See 3.3 in	Instruction Manual for more details.									

#### **Features**

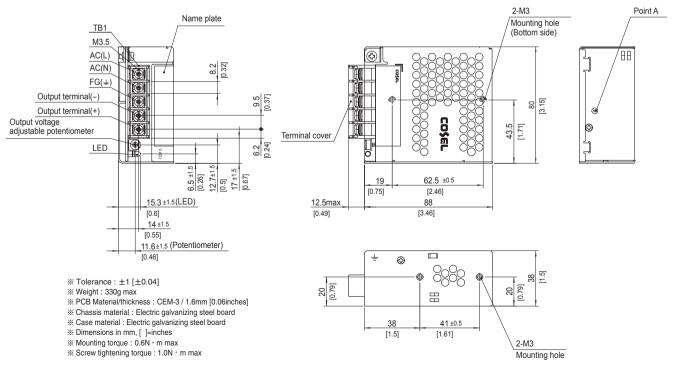
· Compact design (Depth: 88mm 3.46inches)

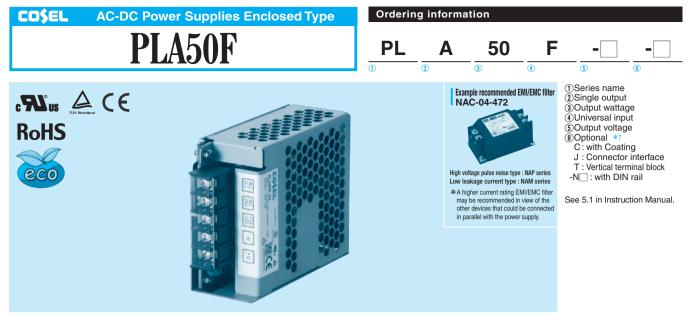
- · UL508 approved (Except option -J), and complies with SEMI F47
- · Various connection interface options (vertical terminal [-T], AMP connector [-J])

#### **Block diagram**



#### **External view**





	MODEL		PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24			
	VOLTAGE[V]		AC85 - 264 1 ¢ (Output der		115V. See 1.1 and 3.2 in Inst	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 (lo=100%)	0.4typ (lo=100%)					
	FREQUENCY[Hz]		50 / 60 (47 - 63)						
		ACIN 100V	74.5typ (lo=90%)	80.0typ (lo=90%)	80.0typ (Io=90%)	81.5typ (lo=90%)			
	EFFICIENCY[%]	ACIN 115V	75.0typ (lo=100%)	80.5typ (lo=100%)	80.5typ (lo=100%)	82.0typ (lo=100%)			
NPUT		ACIN 230V	76.5typ (lo=100%)	82.0typ (lo=100%)	82.0typ (lo=100%)	84.0typ (lo=100%)			
		ACIN 100V	0.97typ (lo=90%)	0.98typ (lo=90%)					
	POWER FACTOR	ACIN 115V	.97typ (lo=100%) 0.98typ (lo=100%)						
		ACIN 230V	0.85typ (lo=100%)	0.87typ (lo=100%)					
		ACIN 100V	16typ (lo=90%) Ta=25°C at (	cold start					
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25℃ at	t cold start					
		ACIN 230V	32typ (lo=100%) Ta=25℃ at	t cold start					
	LEAKAGE CURRENT[mA]		,		g to IEC60950-1 and DEN-AN	)			
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		8	4.3	3.5	2.2			
	WATTACEIM	ACIN 85-115V	Output derating is required a	at ACIN 115V or less (refer t	o instruction manual 3.2)				
	WATTAGE[W]	ACIN 115V-264V	40.0	51.6	52.5	52.8			
	LINE REGULATION[mV] *4		20max	48max	60max	96max			
	LOAD REGULATION[mV]		40max	100max	120max	150max			
	RIPPLE[mVp-p] *1	0 to +45℃	80max	120max	120max	120max			
		-10 to 0℃	140max	160max	160max	160max			
UTPUT	RIPPLE NOISE[mVp-p] *1	0 to +45℃	120max	150max	150max	150max			
	RIPPLE NOISE[mvp-p] *1	-10 to 0℃	160max	180max	180max	180max			
	TEMPERATURE REGULATION[mV]	0 to +45℃	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	IT 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 a	and 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				M $\Omega$ min (At room temperature	,			
SOLATION	INPUT-FG				M $\Omega$ min (At room temperature	e)			
	OUTPUT-FG				$\Omega$ min (At room temperature)				
	OPERATING TEMP., HUMID.AND	ALTITUDE *5	-20 to +70°C, 20 - 90%RH (I	<b>0</b> // · · · · ·					
NVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (I	<b>0</b> , 1 + 1					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3r		ach along X, Y and Z axes				
	IMPACT		196.1m/s2 (20G), 11ms, onc						
SAFETY AND	AGENCY APPROVAL	S			3, UL508 (Except option -J) C	omplies with DEN-AN			
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCC	-B, CISPR22-B, EN55011-E	3, EN55022-B				
REGULATIONS	HARMONIC ATTENU	ATOR *8	Complies with IEC61000-3-2	2 class A					



OTHERS	CASE SIZE/WEIGHT	38×80×99mm [1.50×3.15×3.90 i	38×80×99mm [1.50×3.15×3.90 inches] (Excluding terminal block and screw) (W×H×D) / 400g max							
DIRERS	COOLING METHOD	Convection								
WARRANTY	WARRANTY *6	5 years (subject to the operating cor	nditio	ns)						
mm from th Giken RM1	ne output terminals by a 20 MHz oscilloscope	th capacitors of 22 µ F and 0.1 µ F placed at 150 or a ripple-noise meter equivalent to Keisoku-		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.						
*2 Drift is the	change in DC output for an eight hour peri	od after a half-hour warm-up at 25℃.	*	Parallel operation is not possible with this mode.						
*3 As for DC in	nput, consult us for advice.		*	Sound noise may be heard from the power supply when used for pulse load.						
*4 Consult us	about dynamic load and input response.									

\*5 Output power derating is required. See 3.2 in Instruction Manual.

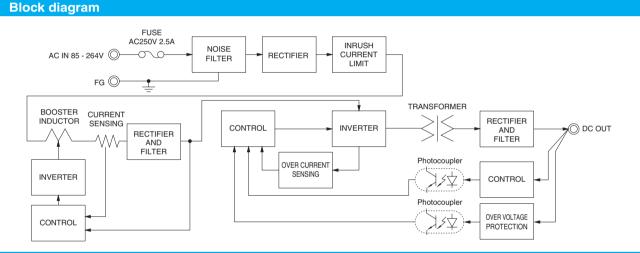
\*6 See 3.3 in Instruction Manual for more details.

#### **Features**

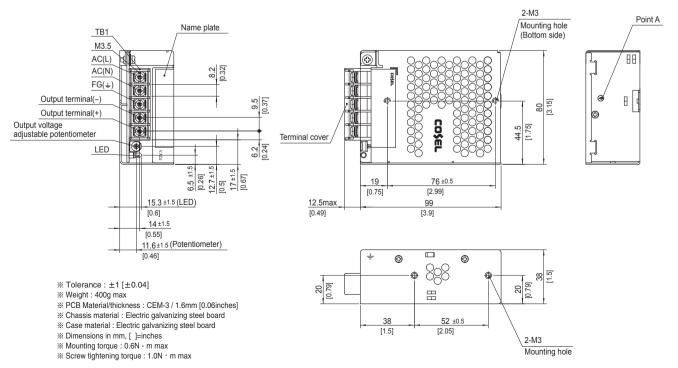
· Compact design (Depth: 99mm 3.90inches)

· UL508 approved (Except option -J), and complies with SEMI F47

· Various connection interface options (vertical terminal [-T], AMP connector [-J])



#### **External view**





# ODECIEICATIONO

1	MODEL		PLA100F-12	A100F-5-N" about 5V ou PLA100F-15	PLA100F-24		PLA100F-48				
	MODEL					PLA100F-36					
	VOLTAGE[V]	1011110011		but derating is required	at AC85V - 115V. See 1.	1 and 3.2 in Instruction N	lanual) *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)								
	EFFICIENCY[%]	ACIN 100V	82typ (lo=90%)	83typ (lo=90%)	85typ (lo=90%)	86typ (lo=90%)	86typ (lo=90%)				
		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	0.95typ (lo=100%) *	Power factor correction	is stopped at AC250V	or more.					
		ACIN 100V	16typ (lo=90%) Ta=2	5℃ at cold start							
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=	25℃ at cold start							
		ACIN 230V	32typ (lo=100%) Ta=								
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115V	/ 240V, 60Hz, lo=100%	, According to IEC6095	0-1 and DEN-AN)					
	VOLTAGE[V]		12	15	24	36	48				
		ACIN 85-115V	Output derating is rec	uired at ACIN 115V or	less (refer to instruction	manual 3.2)					
	CURRENT[A]	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1				
		ACIN 85-115V	Output derating is rec	uired at ACIN 115V or	less (refer to instruction	manual 3.2)					
	WATTAGE[W]	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8				
	LINE REGULATION[mV] *4		48max	60max	96max	144max	192max				
	LOAD REGULATION	lo=30 to 100%	100max	120max	150max	150max	300max				
	[mV] *4	lo=0 to 30%		se contact us about det							
F	RIPPLE[mVp-p]	0 to +40°C		120max	120max	150max	150max				
	*1	-10 to 0°C		160max	160max	200max	400max				
OUTPUT	lo: load factor			500max	500max	500max	500max				
	RIPPLE NOISE[mVp-p]	0 to +40°C		150max	150max	200max	200max				
	*1	-10 to 0°C		180max	180max	240max	500max				
	lo: load factor			600max	600max	600max	600max				
ŀ		0 to +40°C		150max	240max	360max	480max				
	TEMPERATURE REGULATION[mV]	-10 to +40℃		180max	290max	440max	600max				
ŀ	DDIET[m]/]	*2		60max	96max						
	DRIFT[mV]	*2			901118X	144max	192max				
	START-UP TIME[ms]		500typ (ACIN 115V, I								
	HOLD-UP TIME[ms]	TRANOFIL	20typ (ACIN 115V, lo	,	01 00 1- 00 10	00 40 to 00 00	40.00 to 50.00				
-	OUTPUT VOLTAGE ADJUSTMEN			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			ating and recovers auto							
ROTECTION	OVERVOLTAGE PROTE			17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20				
	OPERATING INDICAT	ION	LED (Green)								
DTHERS	REMOTE SENSING		Not provided								
	REMOTE ON/OFF			ternal power source. O	1 /						
	INPUT-OUTPUT • RC	*9		,	0C500V 50MΩ min (At r	1 /					
SOLATION	INPUT-FG				0C500V 50MΩ min (At r						
	OUTPUT • RC-FG	*9	,	,	C500V 50M $\Omega$ min (At ro	/					
	OUTPUT-RC	*9			C500V 50M $\Omega$ min (At ro						
	OPERATING TEMP., HUMID.AND	ALTITUDE *5				sing), 3,000m (10,000 fe	et) max				
	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90°	%RH (Non condensing)	, 9,000m (30,000 feet) n	nax					
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (	2G), 3minutes period, 6	Ominutes each along X,	Y and Z axes					
	IMPACT		196.1m/s² (20G), 11n	ns, once each X, Y and	Zaxes						
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (C	SA60950-1), EN60950-	1, EN50178, UL508 (Ex	cept option -J) Complies	with DEN-AN				
NOISE	CONDUCTED NOISE				EN55011-B, EN55022-E						
REGULATIONS	HARMONIC ATTENU	ATOR *8	Complies with IEC61								

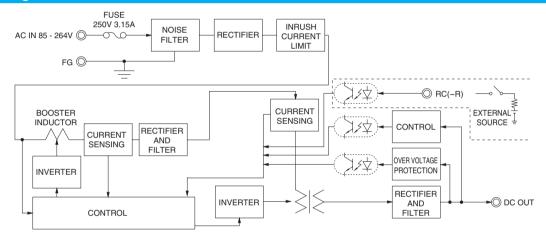


OTHERS	CASE SIZE/WEIGHT	41×97×109mm [1.61×3.82×4.29 inches] (Excluding terminal block and screw) (W×H×D) / 500g max	
UTTERS	COOLING METHOD	Convection	
WARRANTY	WARRANTY *6	5 years (subject to the operating conditions)	
capacitors output term equivalent See 1.6 of When the reduced by noise to go	result of measurement of the testing board wi of 22 µ F and 0.1 µ F placed at 150 mm from i ninals by a 20 MHz oscilloscope or a ripple-no to Keisoku-Giken RM103. Instruction Manual for more details. load factor is 0 - 30%, the switching power y burst operation, which will cause ripple ar o beyond the specifications.	<ul> <li>*3 As for DC input, consult us for advice.</li> <li>*4 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.</li> <li>*5 Output power derating is required. See 3.2 in Instruction Manual.</li> <li>* Parallel operation is not possible with this mode.</li> <li>* Soutput us about safety agency approvals for the models with optional functions.</li> </ul>	or in unspecified nts may be

#### **Features**

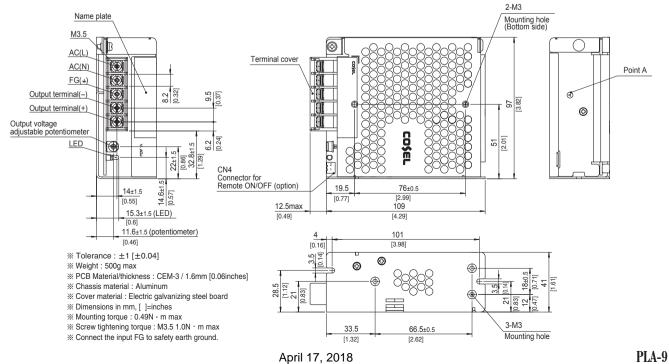
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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

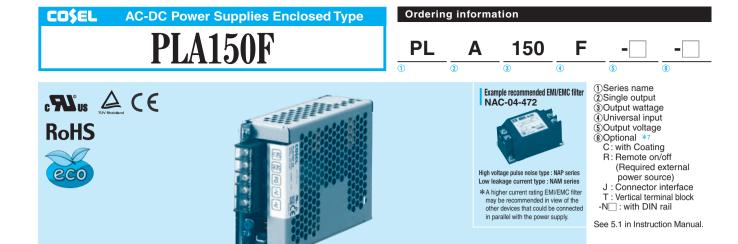
#### **Block diagram**



#### **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.





	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-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) *3 1.7typ (Io=90%)							
	CURRENT[A] ACIN 115V ACIN 230V		1.6typ (lo=100%)							
			0.8typ (lo=100%)							
	FREQUENCY[Hz]	AGIN 2001	50 / 60 (47 - 63)							
	The doctro ([ne]	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%)			
INFUI		ACIN 100V	0.98typ (lo=90%)							
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)							
		ACIN 230V	, ,	Power factor correction	is stopped at AC250V of	or more				
		ACIN 100V	16typ (lo=90%) Ta=25		13 310pped at A02007 (					
	INRUSH CURRENT[A]	ACIN 100V	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
		ACIN 113V	6typ (lo=100%) Ta=25°C at cold start 22typ (lo=100%) Ta=25°C at cold start							
	LEAKAGE CURRENT		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, According to IEC60950	D-1 and DEN-AN)				
	VOLTAGE[V]	[une]	12	15	24	36	48			
		ACIN 85-115V			ess (refer to instruction					
	CURRENT[A]	ACIN 05-115V ACIN 115V-264V		10	6.4	4.2	3.2			
		ACIN 1154-2044			ess (refer to instruction		0.2			
	WATTAGE[W]	ACIN 115V-264V	1 0 1	150.0	153.6	151.2	153.6			
	LINE REGULATION[n		48max	60max	96max	144max	192max			
	LOAD REGULATION	lo=30 to 100%		120max	150max	150max	300max			
	[mV] *4		Burst operation (Please			TSUITIAX	Soomax			
	[]		120max	120max	120max	150max	150max			
	RIPPLE[mVp-p]	-10 to 0℃		160max	160max	200max	400max			
	lo: load factor		500max	-						
OUTPUT			150max	500max 150max	500max 150max	500max 200max	500max 200max			
	RIPPLE NOISE[mVp-p]	0 to +40℃ -10 to 0℃	180max							
	lo: load factor		600max	180max 600max	180max	240max	500max			
					600max	600max	600max			
	TEMPERATURE REGULATION[mV]	0 to +40℃ -10 to +40℃		150max	240max	360max	480max			
	DDIETENNA		180max	180max	290max	440max	600max			
	DRIFT[mV]	*2	48max	60max	96max	144max	192max			
	START-UP TIME[ms]		500typ (ACIN 115V, lo	, ,						
	HOLD-UP TIME[ms]	TRANOFIL	20typ (ACIN 115V, lo=	, ,	01 00 1- 00 10	00.40.4-00.00	40.00 to 50.00			
	OUTPUT VOLTAGE ADJUSTMEN			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		Works over 105% of ra			41 40 40 50 40	E4 00 to 07 00			
ROTECTION	OVERVOLTAGE PROTE		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	IUN	LED (Green)							
JIIIENJ	REMOTE SENSING		Not provided		ation D)					
	REMOTE ON/OFF	**	Optional (Required ext		,					
	INPUT-OUTPUT • RC	*9	, ,	,	C500V 50M $\Omega$ min (At r	1 /				
SOLATION	INPUT-FG				C500V 50M $\Omega$ min (At r					
	OUTPUT • RC-FG	*9			$C500V 50M\Omega$ min (At ro					
		*9			C500V 50M $\Omega$ min (At ro		*			
	OPERATING TEMP., HUMID.AND					sing), 3,000m (10,000 fee	et) máx			
INVIRONMENT	STORAGE TEMP., HUMID.AND	ALIITUDE			9,000m (30,000 feet) m					
	VIBRATION				Ominutes each along X,	r and ∠ axes				
			196.1m/s <sup>2</sup> (20G), 11ms							
SAFETY AND	AGENCY APPROVAL	5				cept option -J) Complies	with DEN-AN			
	CONDUCTED NOISE				EN55011-B, EN55022-B	5				
REGULATIONS	HARMONIC ATTENU	AIOR *8	Complies with IEC61000-3-2 class A							

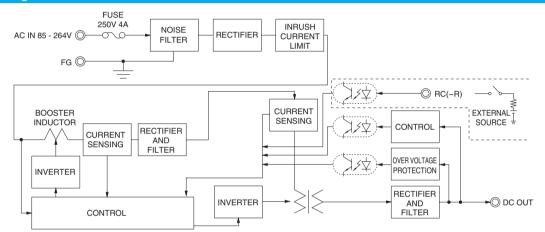


OTUEDO	CASE SIZE/WEIGHT	41×97×	129mm [1.61 × 3.82 × 5.08 inches] (Excluding terminal b	lock a	nd screw) (W×H×D) / 600g max
OTHERS	COOLING METHOD	Convecti	on		
WARRANTY	WARRANTY *6	5 years (	subject to the operating conditions)		
*1 This is the r	result of measurement of the testing board with o	capacitors of	hour warm-up at 25°C.	*9	The RC terminal is added to option -R models. The RC terminal
22 µ F and	0.1 µ F placed at 150 mm from the output termin	nals by a 20	*3 As for DC input, consult us for advice.		is isolated from input, output, and FG.
MHz oscillo	scope or a ripple-noise meter equivalent to Keis	oku-Giken	*4 Consult us about dynamic load and input response. Measure the output	*	Do not use the power supply in overcurrent conditions or in unspecified
RM103.			voltage by using the average mode of the tester to deal with the burst		input voltage ranges. Otherwise the internal components may be
See 1.6 of I	Instruction Manual for more details.		operation at 30% load or less.		damaged.
When the lo	bad factor is 0 - 30%, the switching power loss is	reduced by	*5 Output power derating is required. See 3.2 in Instruction Manual.	*	Parallel operation is not possible with this mode.
burst opera	tion, which will cause ripple and ripple noise to g	jo beyond	*6 See 3.3 in Instruction Manual for more details.	*	Sound noise may be heard from the power supply when used for
the specific	ations.		*7 Consult us about safety agency approvals for the models with optional functions	i.	pulse load.
*2 Drift is the	change in DC output for an eight hour period a	fter a half-	*8 Consult us about other classes.		

#### **Features**

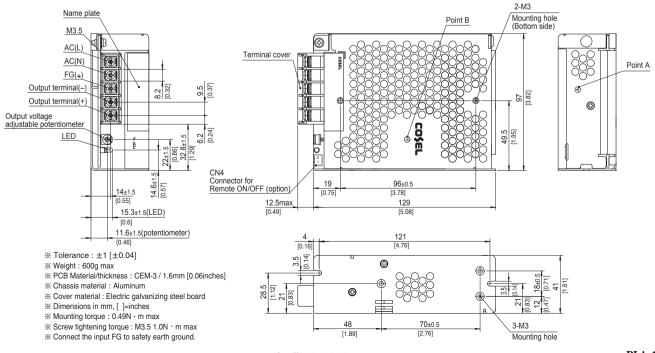
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- · Various connection interface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

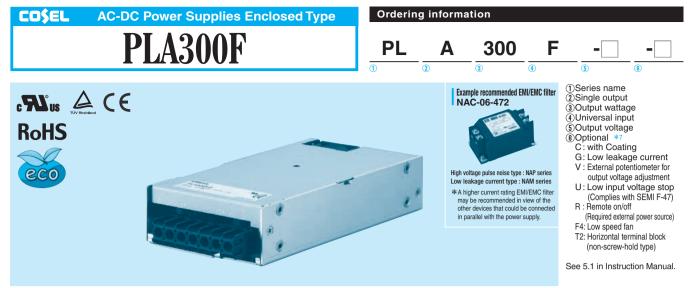
#### **Block diagram**



#### **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.





	MODEL		PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48					
	VOLTAGE[V]		AC85 - 264 1 ¢ (O	utput derating is req	uired at AC85V - 115	V. See 1.1 and 3.2 i	n Instruction Manual	) *3					
		ACIN 100V	3.1typ (lo=90%) 3.4typ (lo=90%)										
	CURRENT[A]	ACIN 115V	3.0typ (lo=100%)										
		ACIN 230V	1.5typ (lo=100%)	1.7typ (lo=100%)									
	FREQUENCY[Hz]	1	50 / 60 (47 - 63)										
		ACIN 100V	73typ (lo=90%)	78typ (lo=90%)	79typ (lo=90%)	81typ (lo=90%)	81typ (lo=90%)	82typ (Io=90%)					
	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	78typ (lo=100%)	80typ (lo=100%)	82typ (lo=100%)	82typ (lo=100%)	83typ (lo=100%)					
VPUT		ACIN 230V	77typ (lo=100%)	81typ (lo=100%)	83typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%)	86typ (lo=100%					
		ACIN 100V	0.98typ (Io=90%)										
	POWER FACTOR	ACIN 115V	0.98typ (lo=100%)										
		ACIN 230V	0.95typ (lo=100%)										
		ACIN 100V	, , ,	20typ (i0=100%) Ta=25℃ at cold start									
	INRUSH CURRENT[A]	ACIN 115V		(0,0) ( $n=25%$ ) $n=25%$ at cold start									
		ACIN 230V	, , , , , , , , , , , , , , , , , , ,	typ (lo=100%) Ta=25 $\degree$ at cold start									
	LEAKAGE CURRENT				100%, According to	IEC60950-1 and DE	N-AN)						
	VOLTAGE[V]	[IIIA]	5	12	15	24	36	48					
	VOLIAGE[V]	ACIN 85-115V	-		5V or less (refer to in			0+1					
	CURRENT[A]	ACIN 05-115V ACIN 115V-264V		25	20	12.5	8.4	6.3					
		ACIN 85-115V		-	5V or less (refer to in			0.0					
	WATTAGE[W]	ACIN 05-115V ACIN 115V-264V	250	300	300	300	302.4	302.4					
-	LINE REGULATION[m		200 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					
UTPUT	*1	-10 to 0℃		160max	160max	160max	160max	400max					
	RIPPLE NOISE[mVp-p]	0 to +50℃		150max	150max	150max	200max	200max					
	*1	-10 to 0℃		180max	180max	180max	240max	500max					
	TEMPERATURE REGULATION[mV]	0 to +50℃		120max	150max	240max	360max	480max					
		-10 to +50℃	75max	180max	180max	290max	440max	600max					
	DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max					
	START-UP TIME[ms]		300typ (ACIN 115)										
	HOLD-UP TIME[ms]		20typ (ACIN 115V,	, ,	1	1		1					
	OUTPUT VOLTAGE ADJUSTMEN			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	CTION		of rating and recover	, ,								
ROTECTION	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					
IRCUIT AND	OPERATING INDICAT	ION	LED (Green)										
THERS	REMOTE SENSING		Not provided										
	REMOTE ON/OFF		Optional (Required external power source. Option -R)										
	INPUT-OUTPUT • RC	*10	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)										
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)										
DOLATION	OUTPUT • RC-FG	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)										
	OUTPUT-RC	*10	AC500V 1minute,	Cutoff current = 100r	mA, DC500V 50M $\Omega$	min (At room tempe	rature)						
	OPERATING TEMP., HUMID.AND	ALTITUDE *5	-20 to +70°C (Outp	ut derating is require	ed), 20 - 90%RH (No	n condensing), 3,00	0m (10,000 feet) ma	x					
	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 -	90%RH (Non conder	nsing), 9,000m (30,0	00 feet) max							
NVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s	<sup>2</sup> (2G), 3minutes per	riod, 60minutes each	along X, Y and Z ax	es						
	IMPACT		196.1m/s2 (20G), 1	1ms, once each X, Y	' and Z axes	-							
AFETY AND	AGENCY APPROVAL	s			0950-1, EN50178 Co	mplies with DEN-AN	1						
IOISE	CONDUCTED NOISE		,		22-B, EN55011-B, El								
				,,	,, <b>_</b> ,	-							

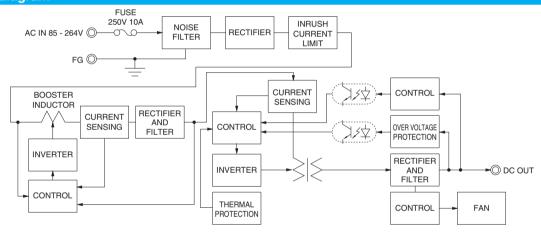


OTHERS	CASE SIZE/WEIGHT	102×41	×190mm [4.02×1.61×7.48 inches] (Excluding terminal bl	ock a	and screw) (W×H×D) / 1.0kg max					
UTHENS	COOLING METHOD *8	Forced c	Forced cooling (internal fan)							
WARRANTY	WARRANTY *6	5 years (	subject to the operating conditions)							
22 µ F and MHz oscillo RM103. See 1.6 of I *2 Drift is the o warm-up at	esult of measurement of the testing board with of 0.1 µ F placed at 150 mm from the output termin scope or a ripple-noise meter equivalent to Keis instruction Manual for more details. shange in DC output for an eight hour period after 25°C. er derating is required. As for DC input, consult	nals by a 20 oku-Giken er a half-hour	<ul> <li>*4 Consult us about dynamic load and input response.</li> <li>*5 See 3.2 in Instruction Manual.</li> <li>*6 See 3.3 in Instruction Manual for more details.</li> <li>*7 Consult us about safety agency approvals for the models with optional functions.</li> <li>*8 The fan speed slows down at no load.</li> <li>*9 Consult us about other classes.</li> <li>*10 The RC terminal is added to option –R models. The RC terminal is isolated from input, output, and FG.</li> </ul>	* * *	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**

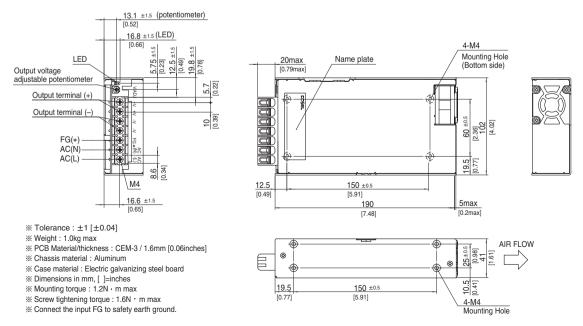
- · Cost-effective
- · Longer life (see Instruction Manual)
- · Low profile (meets 1U height = 41 mm or 1.61 inches)
- · Wide operating temperature range (-20°C to +70°C see instruction manual)
- · Screw hold type terminal block
- · Slow fan speed at no load
- · Many optional functions
- · Complies with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

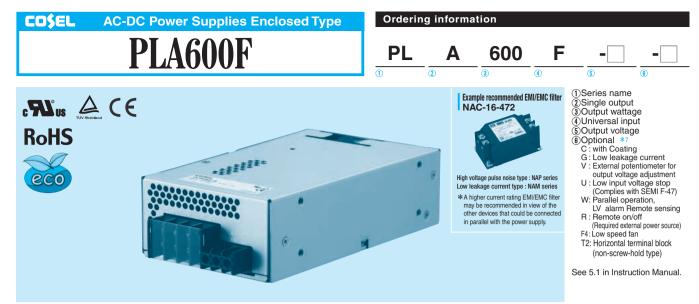
#### Block diagram



#### **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.





\*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	
	VOLTAGE[V]		AC85 - 264 1 ¢ (Out	put derating is required	at AC85V - 115V. See 1.	1 and 3.2 in Instruction N	lanual) *4	
INPUT	ACIN 100V							
	CURRENT[A]	ACIN 115V						
		ACIN 230V						
	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%)	
		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	V 0.98typ (lo=100%)					
		ACIN 230V						
		ACIN 100V	/ 20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
	INRUSH CURRENT[A]	ACIN 115V	20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)					
		ACIN 230V						
	LEAKAGE CURRENT[mA]		1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
	VOLTAGE[V]		12	15	24	36	48	
OUTPUT		ACIN 85-115V	Output derating is re	quired at ACIN 115V or	less (refer to instruction	manual 3.2)		
	CURRENT[A]	ACIN 115V-264V	50	40	25	16.7	12.5	
		ACIN 85-115V	Output derating is re	quired at ACIN 115V or	less (refer to instruction	manual 3.2)		
	WATTAGE[W]	ACIN 115V-264V	600	600	600	601.2	600	
	LINE REGULATION[mV] *8		48max	60max	96max	144max	192max	
	LOAD REGULATION[mV] *8		100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C	120max	120max	120max	150max	150max	
		-20 to 0°C	160max	160max	160max	160max	400max	
	RIPPLE NOISE[mVp-p] *1	0 to +50°C	150max	150max	150max	200max	200max	
		-20 to 0°C	180max	180max	180max	240max	500max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	120max	150max	240max	360max	480max	
		-20 to +50°C	180max	180max	290max	440max	600max	
	DRIFT[mV] *2		48max	60max	96max	144max	192max	
	START-UP TIME[ms]		300typ (ACIN 115V, lo=100%)					
	HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=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	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically					
	OVERVOLTAGE PROTECTION[V]		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	
	OPERATING INDICATION		LED (Green)					
	REMOTE SENSING		Optional (Option -W)					
	REMOTE ON/OFF		Optional (Required external power source. Option -R)					
ISOLATION	INPUT-OUTPUT • RC *3		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)					
SOLATION	OUTPUT • RC-FG *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)					
	OUTPUT-RC *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ 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					
	STORAGE TEMP., HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
INVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axes					
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axes					
SAFETY AND	AGENCY APPROVAL	s	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
NOISE	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
REGULATIONS	HARMONIC ATTENUATOR *10		Complies with IEC61	000-3-2 class A				

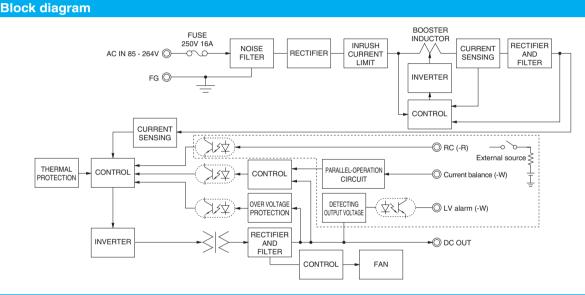


CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max						
COOLING METHOD *9	orced cooling (internal fan)						
WARRANTY WARRANTY *6	WARRANTY * 5 years (subject to the operating conditions)						
<ul> <li>*1 This is the result of measurement of the testing board with ci 22 µ F and 0.1 µ F placed at 150 mm from the output termini. MHz oscilloscope or a ripple-noise meter equivalent to Keisc RM103.</li> <li>See 1.6 of Instruction Manual for more details.</li> <li>*2 Drift is the change in DC output for an eight hour period after warm-up at 25°C.</li> </ul>	als by a 20       isolated from input, output, and FG.       \$10 Consult us about other classe         xku-Giken       *4 As for DC input, consult us for advice.       * Do not use the power supply in classe         *5 Output power derating is required. See 3.2 in Instruction Manual.       input voltage ranges. Otherwise the prevailed operation is allowed for F         *6 See 3.3 in Instruction Manual for more details.       * Parallel operation is allowed for F						

#### · Cost-effective

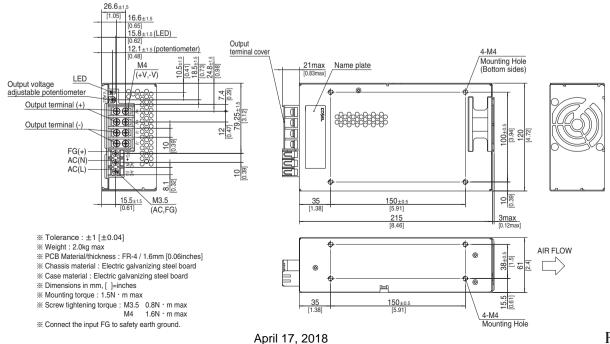
- · Longer life (see Instruction Manual)
- Low profile (meets 2U height = 61 mm or 2.40 inches)
  Wide operating temperature range (-20°C to +70°C see instruction manual)

- $\cdot$  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)



#### External view

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



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