# PLA100F

PL A 100









High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

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

- (5) Output voltage
- (§) Optional \*7 C: with Coating R: Remote on/off (Required external
- power source)
  J: Connector interface
  T: Vertical terminal block
  L: Lower power consumption
  (0.5W max at AC240Vin, no load, ErP-compliant)
- N1: with DIN rail

Refer to instruction manual 5.1 about optional.

# **SPECIFICATIONS**

\* Please consider "PRA100F-5-N" about 5V output with case cover

M	ODEL		PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48				
111	OLTACEIVE		AC85 - 264 1 φ (Out	put derating is require	at AC85V - 115V. Ref	er to instruction manua					
l vc	VOLTAGE[V]		(DC input *3)								
	ACIN 100V		1.2typ (lo=90%)								
CI	URRENT[A]										
		ACIN 230V	0.6yp (lo=100%)								
FF	REQUENCY[Hz]		50 / 60 (47 - 63) (DO	input and 440Hz *3)							
	ACIN 100V		82typ (lo=90%)	83typ (Io=90%)	85typ (Io=90%)	86typ (Io=90%)	86typ (Io=90%)				
EF	FFICIENCY[%]	ACIN 115V	82typ (lo=100%)	83typ (Io=100%)	85typ (lo=100%)	86typ (Io=100%)	86typ (lo=100%)				
NPUT		ACIN 230V	85typ (lo=100%)	86typ (Io=100%)	88typ (lo=100%)	89typ (Io=100%)	89typ (lo=100%)				
		ACIN 100V	0.98typ (lo=90%)		•	•					
PC	OWER FACTOR	ACIN 115V	0.98typ (lo=100%)								
		ACIN 230V	0.95typ (lo=100%) 3	Power factor correct	ion is stopped at AC25	OV or more.					
		ACIN 100V	16typ (lo=90%) Ta=2	25°C at cold start							
IN	RUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta=25°C at cold start								
		ACIN 230V	32typ (lo=100%) Ta:	32typ ( $I_0=100\%$ ) Ta=25°C at cold start							
LE	EAKAGE CURRENT	[mA]			%, According to IEC60	950-1 and DEN-AN)					
	OLTAGE[V]		12	15	24	36	48				
		ACIN 85-115V		1 -	r less (refer to instruct						
C	URRENT[A]	ACIN 115V-264V	8.4	6.7	4.3	2.8	2.1				
		ACIN 85-115V			r less (refer to instruct						
W	WATTAGE[W]	ACIN 115V-264V	100.8	100.5	103.2	100.8	100.8				
Ш	NE REGULATION[m			60max	96max	144max	192max				
	OAD REGULATION		100max	120max	150max	150max	300max				
	[mV] *4			ase contact us about d		10011167	Coomax				
<del>-</del>	IPPLE[mVp-p]		120max	120max	120max	150max	150max				
""	NIFFEE[IIIVP-P]   *1		160max	160max	160max	200max	400max				
UTPUT	lo: load factor			500max	500max	500max	500max				
	PPLE NOISE[mVp-p]		150max	150max	150max	200max	200max				
l nu	*1		180max	180max	180max	240max	500max				
	lo: load factor	_	600max	600max	600max	600max	600max				
			120max	150max	240max	360max	480max				
TEI	TEMPERATURE REGULATION[mV]	-10 to +40°C		180max	290max	440max	600max				
DE	DRIFT[mV] *2		48max	60max	96max	144max	192max				
_	START-UP TIME[ms]			-	оотпах	TTIMOX	TOZITIAX				
	OLD-UP TIME[ms]		500typ (ACIN 115V, Io=100%) Ta=25℃  20typ (ACIN 115V, Io=100%)								
_		T RANGEIVI		13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80				
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V] 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				
	VERCURRENT PROTE			rating and recovers a		1 30.00 10 07.44	10.00 10 40.02				
_	VERVOLTAGE PROTEC		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				
	OPERATING INDICATION		LED (Green)								
	EMOTE SENSING	.0.14	Not provided								
1	EMOTE ON/OFF		·								
	IPUT-OUTPUT • RC	<b>*</b> 0	Optional (Required external power source. Option -R) AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)								
_	IPUT-FG	43									
SOLATION —		*0	AC2,000V 1 minute, Cutoff current = 10mA, DC500V 50MΩ min (At room temperature)								
			AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature) AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)								
	PERATING TEMP., HUMID. AND A					densing), 3,000m (10,	000 feet) may				
					g), 9,000m (30,000 feet)		ooo ieelj illax				
NVIRONMENI —	STORAGE TEMP., HUMID. AND ALTITUDE										
_	VIBRATION				60minutes each along	j∧, i aliu∠äxes					
1	MPACT			ms, once each X, Y an		Event entire 1\ C	alian with DEN AN				
	GENCY APPROVALS	5				Except option -J) Comp	DIIGS WILLI DEM-AN				
	ONDUCTED NOISE	TOP #0	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	EN55011-B, EN55022	-D					
COULBINOUS I HA	ARMONIC ATTENUA	ATOR *8	Complies with IEC61	UUU-3-2 CIASS 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-year (Depends on the used condition)						

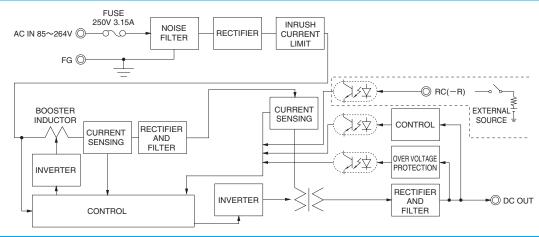
- This is the value that measured on measuring board with capacitor of 22 µF and 0.1 µF at 150mm from output terminal Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103)
  - Please refer to the instruction manual 1.6 Ripple and ripple noise spec is change at lo=0  $\sim$  30% by low
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃
- \*3 Derating is required. As for DC input, please contact us. \*4 Please contact us about dynamic load and input response Also, please measure output voltage in average mode because of burst operation at 30% load or less.
- \*5 Derating is required. Please refer to instruction manual 3.2.
- As for detail condtion, please refer to instruction manual 3.3. Please contact us about safety approvals for the model with option
- \*8 Please contact us about other class.

- \*9 RC terminal is applied at option -R. And RC terminal is isolated from input, output and FG
- To meet the specifications, do not operate over-loaded condition
  - Parallel operation is not possible
- A sound may occur from power supply at peak loading

### **Features**

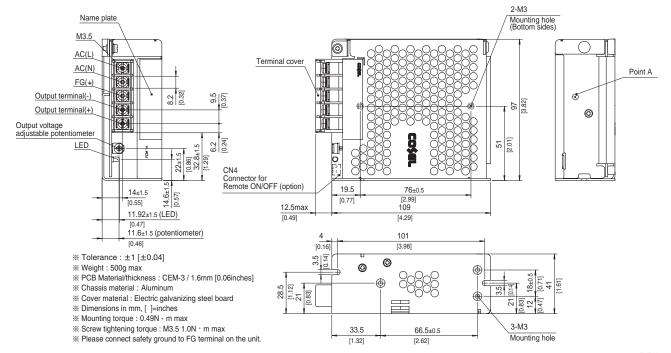
- · Compact design (Depth: 109mm 4.29inches)
- · High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · Lower power consumption (0.5Wmax AC240Vin, no load at option -L: refer to instruction manual)
- · UL508 approved (Except option -J), and complies with SEMI F47 (Refer to instruction manual 1.1)
- · Various option (Optional connectors : Vertical terminal block, Connector wiring)

# **Block diagram**



### **External view**

External size of option R, J, N1 and T is different from standard model, and refer to "5 Option and others" of instruction manual for detail.



# PLA150F

A 150









High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

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

- (5) Output voltage
- ® Optional \*7 C: with Coating R: Remote on/off
  - (Required external
- power source)
  J: Connector interface
  T: Vertical terminal block
  L: Lower power consumption
  (0.5W max at AC240Vin, no load, ErP-compliant)
- N1: with DIN rail

Refer to instruction manual 5.1 about optional.

# **SPECIFICATIONS**

\* Please consider "PBA150F-5-N" about 5V output with case cover.

	CATIONS			3A150F-5-N" about 5V o	-						
	MODEL		PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48				
	VOLTAGE[V]		,	put derating is require	d at AC85V - 115V. Ref	er to instruction manu	al 1.1 and 3.2) *3				
			(DC input *3)								
		ACIN 100V	1.7typ (Io=90%)								
	CURRENT[A]	ACIN 115V	1.6typ (Io=100%)								
		ACIN 230V	0.8yp (lo=100%)								
	FREQUENCY[Hz]		50 / 60 (47 - 63) (DC input and 440Hz *3)								
		ACIN 100V	84typ (Io=90%)	84typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)	87typ (Io=90%)				
NPUT	EFFICIENCY[%]	ACIN 115V	84typ (lo=100%)	84typ (lo=100%)	87typ (Io=100%)	87typ (lo=100%)	87typ (Io=100%				
NFO1		ACIN 230V	87typ (Io=100%)	87typ (lo=100%)	90typ (Io=100%)	90typ (Io=100%)	90typ (Io=100%				
		ACIN 100V	0.98typ (Io=90%)								
	POWER FACTOR	ACIN 115V	0.98typ (Io=100%)								
		ACIN 230V	0.95typ (lo=100%)	* Power factor correc	tion is stopped at AC25	60V or more.					
		ACIN 100V	16typ (Io=90%) Ta=	25°C at cold start							
	INRUSH CURRENT[A]	ACIN 115V	16typ (lo=100%) Ta	16typ (lo=100%) Ta=25°C at cold start							
		ACIN 230V	32typ (lo=100%) Ta=25℃ at cold start								
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 115)	V / 240V, 60Hz, Io=100	0%, According to IEC60	950-1 and DEN-AN)					
	VOLTAGE[V]		12	15	24	36	48				
	ALIDDENITA:	ACIN 85-115V	Output derating is re	equired at ACIN 115V o	or less (refer to instruct	ion manual 3.2)	<u>'</u>				
	CURRENT[A]	ACIN 115V-264V	12.5	10	6.4	4.2	3.2				
		ACIN 85-115V	Output derating is re	equired at ACIN 115V o	or less (refer to instruct	ion manual 3.2)	-				
	WATTAGE[W]	ACIN 115V-264V	150.0	150.0	153.6	151.2	153.6				
	LINE REGULATION[n			60max	96max	144max	192max				
	LOAD REGULATION		100max	120max	150max	150max	300max				
	[mV] *4			ase contact us about d							
ОИТРИТ	RIPPLE[mVp-p]		120max	120max	120max	150max	150max				
	NIPPLE[IIIVP-P]   *1	-10 to 0°C		160max	160max	200max	400max				
	lo: load factor		500max	500max	500max	500max	500max				
	RIPPLE NOISE[mVp-p]	10-0 10 00/0	150max	150max	150max	200max	200max				
	*1		180max	180max	180max	240max	500max				
	lo: load factor		600max	600max	600max	600max	600max				
		0 to +40°C		150max	240max	360max	480max				
	TEMPERATURE REGULATION[mV]	-10 to +40°C		180max	290max	440max	600max				
-	DRIFT[mV]	*2									
	START-UP TIME[ms]		48max								
-			20typ (ACIN 115V, I								
-	HOLD-UP TIME[ms]  OUTPUT VOLTAGE ADJUSTMENT RANGE[V]			13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80				
	OUTPUT VOLTAGE ADJUSTMEN		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			f rating and recovers a		30.00 10 37.44	140.00 10 49.92				
DOTE OT LOS						41 40 to 50 40	54 00 to 67 20				
ROTECTION	OVERVOLTAGE PROTE										
THERS	OPERATING INDICAT REMOTE SENSING	IUN	LED (Green)								
/IIIENO			Not provided								
	REMOTE ON/OFF		Optional (Required external power source. Option -R)								
	INPUT-OUTPUT • RC	*9	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)								
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)								
	OUTPUT • RC-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)								
	OUTPUT-RC	*9		·	DC500V 50MΩ min (A	<u> </u>	200 ( 1)				
	OPERATING TEMP.,HUMID.AND				20 - 90%RH (Non con		UUU teet) max				
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	·	· · · · · · · · · · · · · · · · · · ·	ig), 9,000m (30,000 feet						
	VIBRATION				, 60minutes each along	g X, Y and Z axes					
	IMPACT		196.1m/s2 (20G), 11	ms, once each X, Y an	d Z axes						
SAFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN								
NOISE	CONDUCTED NOISE		Complies with FCC-I	B, VCCI-B, CISPR22-B	, EN55011-B, EN55022	-В					
REGULATIONS	HARMONIC ATTENUA	ATOR *8	Complies with IEC61	1000-3-2 class A	<del></del>						



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	NANTY WARRANTY *6 5-year (Depends on the used condition)	

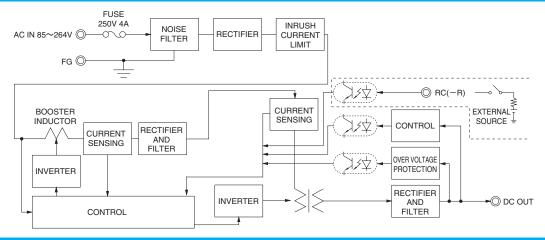
- This is the value that measured on measuring board with capacitor of 22 µF and 0.1 µF at 150mm from output terminal Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM103)
  - Please refer to the instruction manual 1.6. Ripple and ripple noise spec is change at lo=0  $\sim$  30% by low
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃
- \*3 Derating is required. As for DC input, please contact us. \*4 Please contact us about dynamic load and input response Also, please measure output voltage in average mode because of burst operation at 30% load or less.
- Derating is required. Please refer to instruction manual 3.2.
- As for detail condtion, please refer to instruction manual 3.3. Please contact us about safety approvals for the model with optio
- Please contact us about other class.

- \*9 RC terminal is applied at option -R. And RC terminal is isolated from input, output and FG
- To meet the specifications, do not operate over-loaded condition.
  - Parallel operation is not possible
- A sound may occur from power supply at peak loading

### **Features**

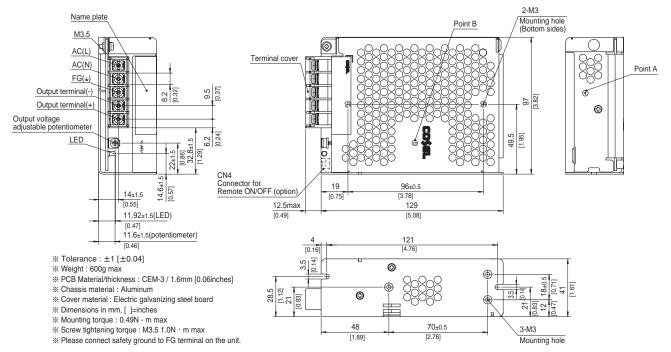
- · Compact design (Depth: 129mm 5.08inches)
- · High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- · Low power consumption (1.5W typ AC240Vin, no load at standard model)
- · Lower power consumption (0.5Wmax AC240Vin, no load at option -L: refer to instruction manual)
- · UL508 approved (Except option -J), and complies with SEMI F47 (Refer to instruction manual 1.1)
- · Various option (Optional connectors : Vertical terminal block, Connector wiring)

## **Block diagram**



### **External view**

External size of option R, J, N1 and T is different from standard model, and refer to "5 Option and others" of instruction manual for detail.



# PLA300F

A 300







High voltage pulse noise type : NAP series Low leakage current type : NAM series \*The EMI/EMC Filter is recommended to connect with several devices.

- ①Series name ②Single output ③Output wattage ④Universal input
- (5) Output voltage
- GOttput voltage
   Gottput voltage
   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 (Not screw hold type)

Refer to instruction manual 5.1 about optional.

# **SPECIFICATIONS**

	MODEL		PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48		
	VOLTAGE[V]		AC85 - 264 1 \$\phi\$ (Output derating is required at AC85V - 115V. Refer to instruction manual 1.1 and 3.2) *3							
			(DC input and AC265 - 277V input *3)							
		ACIN 100V	3.1typ (Io=90%)	3.4typ (Io=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) (DC input and 440Hz *3)							
		ACIN 100V	73typ (lo=90%)	78typ (Io=90%)	80typ (Io=90%)	84typ (Io=90%)	84typ (Io=90%)	84typ (Io=90%)		
INPUT	EFFICIENCY[%]	ACIN 115V	74typ (lo=100%)	78typ (Io=100%)	80typ (Io=100%)	84typ (Io=100%)	84typ (Io=100%)	84typ (Io=100%)		
INFOI		ACIN 230V	77typ (Io=100%)	81typ (lo=100%)	83typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)	87typ (Io=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	a=25°C at cold star	t					
	INRUSH CURRENT[A]	ACIN 115V	20typ (lo=100%)	Otyp (Io=100%) Ta=25℃ at cold start						
		ACIN 230V	40typ (lo=100%)	Ta=25°C at cold sta	rt					
	LEAKAGE CURRENT	[mA]	0.75max (ACIN 11	5V / 240V, 60Hz, I	o=100%, According	to IEC60950-1 an	d DEN-AN)			
	VOLTAGE[V]		5	12	15	24	36	48		
	OUDDENTIAL	ACIN 85-115V	Output derating is	required at ACIN 1	15V or less (refer t	o instruction manu	al 3.2)			
	CURRENT[A]	ACIN 115V-264V	50	25	20	12.5	8.4	6.3		
		ACIN 85-115V	Output derating is	required at ACIN 1	15V or less (refer t	o instruction manu	al 3.2)	•		
	WATTAGE[W]	ACIN 115V-264V	250	300	300	300	302.4	302.4		
	LINE REGULATION[mV] *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] *1  TEMPERATURE REGULATION[mV]	0 to +50°C	120max	150max	150max	150max	200max	200max		
		-10 to 0°C	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 115	V, Io=100%)	•			,		
	HOLD-UP TIME[ms]	LD-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	32.40 to 39.60	43.20 to 52.80		
	OUTPUT VOLTAGE SETTING[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 rating and reco	vers 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	ION	LED (Green)							
OTHERS	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 50M $\Omega$ min (At room temperature)							
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)							
IOOLATION	OUTPUT · RC-FG	*10	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)							
	OUTPUT-RC	*10			00mA, DC500V 50N		<u> </u>			
	OPERATING TEMP., HUMID. AND				iired), 20 - 90%RH		3,000m (10,000 fe	et) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE			densing), 9,000m (3	·				
	VIBRATION	VIBRATION			period, 60minutes e	each along X, Y and	Z axes			
	IMPACT			11ms, once each X						
SAFETY AND	AGENCY APPROVAL	S	UL60950-1, C-UL	(CSA60950-1), EN	60950-1, EN50178	Complies with DEN	N-AN			
NOISE	CONDUCTED NOISE				R22-B, EN55011-B,	EN55022-B				
REGULATIONS	HARMONIC ATTENU	ATOR *9	Complies with IEC	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-year (Depends on the used condition)

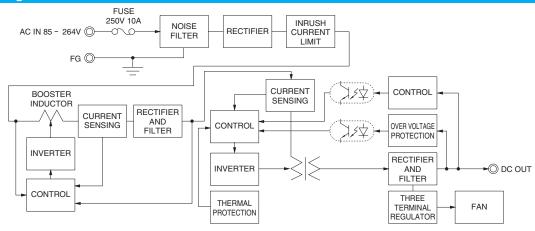
- This is the value that measured on measuring board with capacitor of 22 µF and 0.1 µF at 150mm from output terminal Measured by 20MHz oscilloscope or Ripple-Noise meter
  - (Equivalent to KEISOKU-GIKEN: RM103) Please refer to the instruction manual 1.6.
- \*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃
- \*3 Derating is required. As for DC input, 440Hz input and AC265 to 277V input, please contact us.
- Please contact us about dynamic load and input response.
- Derating is required. Please refer to instruction manual 3.2.
- As for detail condtion, please refer to instruction manual 3.3. Please contact us about safety approvals for the model with option
- Fan speed is changed by load factor

- \*9 Please contact us about other class.
- \*10 BC terminal is applied at option -B. And BC terminal is isolated from input, output and FG.
- To meet the specifications, do not operate over-loaded condition
- Parallel operation is not possible.
- A sound may occur from power supply at peak loading.

# **Features**

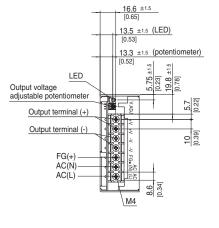
- · Economical model
- · Long lifetime (Refer to instruction manual)
- · Low profile (41mm, 1.61 inch = meet to 1U height)
- · Wide temperature range (-20°C to +70°C Refer to instruction manual)
- · Screw hold type terminal block
- · Fan speed control (At no load condition)
- · Various option
- · Complies with SEMI F-47 (Option-U: Refer to instruction manual)

### **Block diagram**

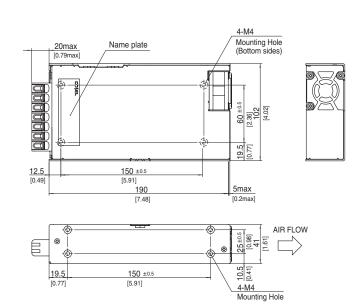


# **External view**

External size of option V, option R and option T2 is different from standard model, and refer to "5. Option and Others" of instruction manual for detail.



- \* Tolerance : ±1 [±0.04]
- \* Weight: 1.0kg max
- PCB Material/thickness: CEM-3 / 1.6mm [0.06inches]
- ※ Chassis material: Aluminum
- \* Case material: Electric galvanizing steel board
- ※ Dimensions in mm, [ ]=inches ※ Mounting torque: 1.2N ⋅ m max
- ※ Screw tightening torque: 1.6N ⋅ m max \* Please connect safety ground to FG terminal on the unit.



# PLA600F

600







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

- \*The EMI/EMC Filter is recommended to connect with several devices.

- (1) Series name
  (2) Single output
  (3) Output wattage
  (4) Universal input
  (5) Output voltage
  (6) Optional \*7
  (7) C: with Coating
  (8] E. Low leakage current
  (9) V: External potentiometer for output voltage adjustment
  (1) C. Low input voltage stop
  (Complies with SEMI F-47)
  (1) W: Parallel operation,
  (2) Low leakage senoing
  (3) R: Remote on/off
  (4) Required external power source
  (5) F4: Low speed fan

  - F4: Low speed fan T2: Horizontal terminal block

  - (Not screw hold type)

Refer to instruction manual 5.1 about optional.

# **SPECIFICATIONS**

1	MODEL		PLA600F-5	PLA600F-12	PLA600F-15	PLA600F-24	PLA600F-36	PLA600F-48		
,	VOLTAGE[V]			,	•	115V. Refer to instr	ruction manual 1.1	and 3.2) *4		
Ľ			(DC input and AC265 - 277V input *4)							
	ACIN 100V		6.2typ (Io=90%)							
(	CURRENT[A]	ACIN 115V	,	6.5typ (lo=100%)						
		ACIN 230V		3.2typ (lo=100%)						
I	FREQUENCY[Hz]		50 / 60 (47 - 63) (DC input and 440Hz *4)							
		ACIN 100V	74typ (Io=90%)	81typ (Io=90%)	81typ (Io=90%)	84typ (Io=90%)	85typ (Io=90%)	85typ (Io=90%)		
INPUT	EFFICIENCY[%]	ACIN 115V	J1 \ /	81typ (lo=100%)	81typ (Io=100%)	71 \	85typ (Io=100%)	85typ (Io=100%)		
		ACIN 230V		84typ (Io=100%)	84typ (Io=100%)	88typ (Io=100%)	88typ (Io=100%)	88typ (Io=100%)		
		ACIN 100V	0.98typ (Io=90%)							
	POWER FACTOR	ACIN 115V	0.98typ (Io=100%)							
		ACIN 230V	0.95typ (lo=100%	·						
		ACIN 100V	J1 (	, \	current /Secondary	, ,	Nore than 3sec to re			
1	INRUSH CURRENT[A]	ACIN 115V	* ' '	, , , , , , , , , , , , , , , , , , , ,	current /Secondary		(More than 3sec to	/		
		ACIN 230V	* ' '	, , ,	current /Secondary		(More than 3sec to	re-start)		
	LEAKAGE CURRENT	[mA]			=100%, According					
	VOLTAGE[V]		5	12	15	24	36	48		
	CURRENT[A]	ACIN 85-115V	1 0		15V or less (refer t					
	oomizmi <sub>[A]</sub>	ACIN 115V-264V	100	50	40	25	16.7	12.5		
١,	WATTAGE[W]	ACIN 85-115V	1 0		15V or less (refer t					
_		ACIN 115V-264V	500	600	600	600	601.2	600		
<u> </u>	LINE REGULATION[mV] *8		20max	48max	60max	96max	144max	192max		
<u> </u>	LOAD REGULATION[		40max	100max	120max	150max	150max	300max		
ı	RIPPLE[mVp-p]		80max	120max	120max	120max	150max	150max		
OUTPUT	*1	-20 to 0°C	140max	160max	160max	160max	160max	400max		
F	RIPPLE NOISE[mVp-p] *1	0 to +50°C	120max	150max	150max	150max	200max	200max		
		-20 to 0°C	160max	180max	180max	180max	240max	500max		
1	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max	360max	480max		
_		-20 to +50°C	75max	180max	180max	290max	440max	600max		
<u> </u>	DRIFT[mV] *2		20max	48max	60max	96max	144max	192max		
-	START-UP TIME[ms]		300typ (ACIN 115	<u> </u>						
-	HOLD-UP TIME[ms]		20typ (ACIN 115V		T		1	T		
<u> </u>	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	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 recov			1			
	OVERVOLTAGE PROTECTION[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		
	OPERATING INDICATION		LED (Green)							
· ·	REMOTE SENSING		Optional (Option -W)							
	REMOTE ON/OFF		Optional (Required external power source. Option -R)							
-	INPUT-OUTPUT · RC	*3	(							
ISOLATION -	INPUT-FG	4.0	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M $\Omega$ min (At room temperature)							
-			AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)  AC500V 1minute, Cutoff current = 100mA, DC500V 50M $\Omega$ min (At room temperature)							
	OUTPUT-RC						<u> </u>	at)		
H	OPERATING TEMP.,HUMID.AND						3,000m (10,000 fe	et) max		
	STORAGE TEMP.,HUMID.AND	ALIIIUDE			densing), 9,000m (30		7 0 4 0 0			
-	VIBRATION		· · · · · · · · · · · · · · · · · · ·		period, 60minutes e	ach along X, Y and	∠ axes			
	IMPACT			11ms, once each X	,	Compliesth DE	LAN			
	AGENCY APPROVAL	5			60950-1, EN50178	<u> </u>	N-AIN			
	CONDUCTED NOISE	TOD #40			R22-B, EN55011-B,	EN00022-R				
HEGULATIONS	HARMONIC ATTENUA	ATUK *10	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 *9	Forced cooling (internal fan)
WARRANTY	TY WARRANTY *6 5-year (Depends on the used condition)	

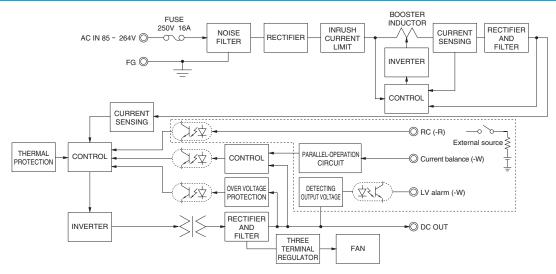
- This is the value that measured on measuring board with capacitor of 22 µF and 0.1 µF at 150mm from output terminal.

  Measured by 20MHz oscilloscope or Ripple-Noise meter
  - (Equivalent to KEISOKU-GIKEN: RM103). Please refer to the instruction manual 1.6
- Drift is the change in DC output for an eight hour period after a
- RC terminal is applied at option -R. And RC terminal is isolated
- from input, output and FG.
  Derating is required. As for DC input, 440Hz input and AC265 to
- 277V input, please contact us.
  Derating is required. Please refer to instruction manual 3.2
- As for detail condtion, please refer to instruction manual 3.3. Please contact us about safety approvals for the model with option.
- Please contact us about dynamic load and input response.
- Fan speed is changed by load factor. Please contact us about other class.
- To meet the specifications, do not operate over-loaded condition. Parallel operation with other model is not possible. In case of
- parallel operation with same model, please use option -W.
- A sound may occur from power supply at peak loading.

### **Features**

- · Economical model
- · Long lifetime (Refer to instruction manual)
- · Low profile (61mm, 2.40 inch = meet to 2U height)
- · Wide temperature range (-20°C to +70°C Refer to instruction manual)
- · Screw hold type terminal block (Only input and FG terminal)
- · Fan speed control (At no load condition)
- · Various option
- · Complies with SEMI F-47 (Option-U: Refer to instruction manual)

### **Block diagram**



# **External view**

External size of option V, option W, option R and option T2 are different from standard model, and refer to "5. Option and Others" of instruction manual for detail.

