











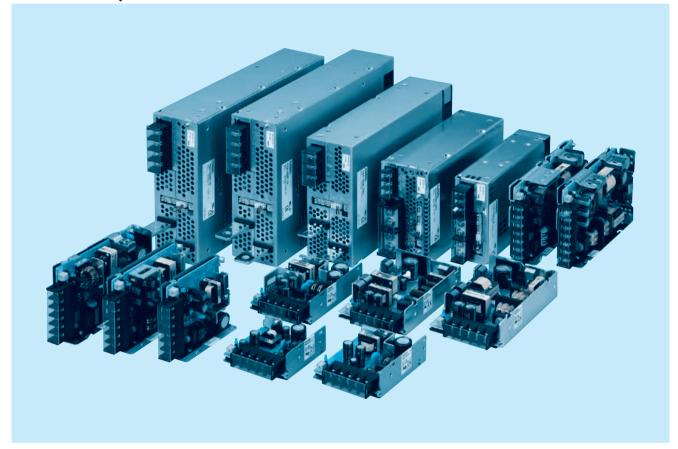








PBA, PBW-series



Feature

Small-size & light weight

Harmonic attenuator (Complies with IEC61000-3-2): except PBA1500T Universal input (AC85 - 264V): PBA1500T(AC170 - 264V 3 ϕ) Efficiency increased with synchronous rectification technology (PBA50F - 150F)

Variety of option (PBA10F - 150F, PBW15F - 50F)
Parallel operation and Parallel redandancy operation

(PBA300F - 1500F, PBA1500T)

Fan alarm, Remote ON/OFF and other functions (PBA300F - 1500F, PBA1500T)

Safety agency approvals

UL60950-1, C-UL(CSA60950-1), EN62368-1 UL508 (PBA10F - 150F, -24, with cover) Complies with DEN-AN

FM

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

5-year warranty (refer to Instruction Manual)

CE marking

Low Voltage Directive RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

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

PBA10F

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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.

Cover is optional

- Series name
 Single output (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating

 - G:Low leakage current
 - E:Low leakage current and EMI class A
 - T : Vertical terminal block
- J1 :VH (J.S.T.) connector type N :with Cover
- (UL508 is acquired)
- N1: with DIN rail and Cover V:Output voltage setting potentiometer external-

*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.

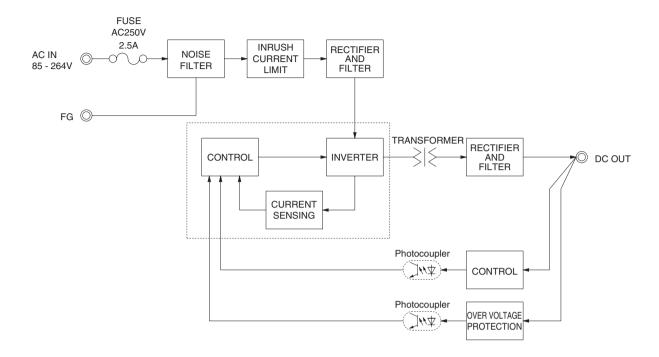
MODEL	PBA10F-5	PBA10F-12	PBA10F-24
MAX OUTPUT WATTAGE[W]	10	10.8	12
DC OUTPUT	5V 2A	12V 0.9A	24V 0.5A

	MODEL		PBA10F-5	PBA10F-12	PBA10F-24		
	VOLTAGE[V]		AC85 - 264 1 φ or DC110 - 370 (AC5	0 or DC70 Please refer to the instruction	on manual 1.1 Input voltage *3)		
	CUDDENTIAL	ACIN 100V	0.30typ (Io=100%)				
	CURRENT[A]	ACIN 200V	0.20typ (lo=100%)				
	FREQUENCY[Hz]		50/60 (47 - 440) or DC				
INPUT	EFFICIENCY[%]	ACIN 100V	74typ	76typ	77typ		
	EFFICIENCI[/6]	ACIN 200V	74typ	76typ	77typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%)				
	INNOSTI CONNENT[A]	ACIN 200V	30typ (lo=100%)				
	LEAKAGE CURREN	T[mA]	0.15/0.30max (ACIN 100V/240V 60Hz	, Io=100%, According to IEC62368-1, I	DENAN)		
	VOLTAGE[V]		5	12	24		
	CURRENT[A]		2	0.9	0.5		
	LINE REGULATION[mV] *6	20max	48max	96max		
	LOAD REGULATION	[mV] *6	40max	100max	150max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	120max	120max		
	rm r zz[mvp p]	-10 - 0℃ *1	140max	160max	160max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	150max	150max		
OUTPUT	TIII T EE NOICE[III VP P]	-10 - 0℃ *1	160max	180max	180max		
	TEMPERATURE REGULATION[mV]	0 to +50℃		120max	240max		
		-10 to +50℃	60max	150max	290max		
	DRIFT[mV]	*2	20max	48max	96max		
	START-UP TIME[ms]			is 700ms typ for less than 1minute of applying	g input again from turning off the input voltage.		
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)				
	OUTPUT VOLTAGE ADJUSTMENT	- 11	4.50 - 5.50	10.0 - 13.2	19.2 - 27.0		
	OUTPUT VOLTAGE SET		5.00 - 5.15	12.00 - 12.48	24.00 - 24.96		
PROTECTION	OVERCURRENT PROT						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC		5.75 - 7.00	15.0 - 18.0	30.0 - 37.0		
OTHERS	OPERATING INDICA	TION	LED (Green)				
	REMOTE ON/OFF		None				
	INPUT-OUTPUT			0mA, DC500V 50MΩmin (At Room Tel	<u> </u>		
ISOLATION	INPUT-FG			0mA, DC500V 50MΩmin (At Room Tel			
	OUTPUT-FG			mA, DC500V 50MΩmin (At Room Temp			
	OPERATING TEMP.,HUMID.AND			- 90%RH (Non condensing) 3,000m (10	0,000feet) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non conde				
	VIBRATION			eriod, 60minutes each along X, Y and 2	Zaxis		
	IMPACT	*** '	196.1m/s ² (20G), 11ms, once each X,				
SAFETY AND	AGENCY APPROVALS (At only		UL60950-1, C-UL(CSA60950-1), EN62	•			
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B				
	HARMONIC ATTENU		Complies with IEC61000-3-2 (Not built-in to active filter *4) *7 31 × 78 × 68mm [1.22 × 3.07 × 2.68 inches] (without terminal block) (W×H×D) / 150g max (with cover : 180g max)				
OTHERS	CASE SIZE/WEIGHT			nesj (without terminal block) (WXHXD) / 150g max (with cover : 180g max)		
	COOLING METHOD		Convection				

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about dynamic load and input response.
- Please contact us about class C.
- Parallel operation with other model is not possible
- Derating is required when operated with cover.

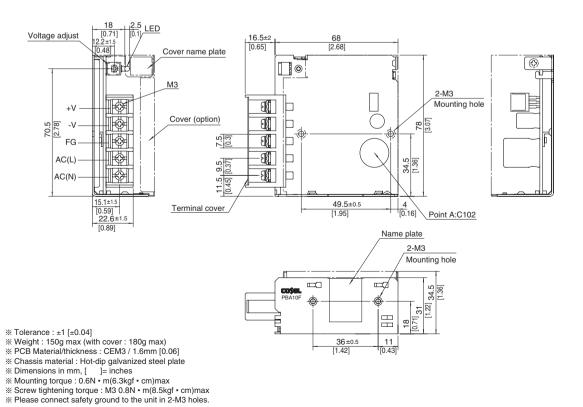
 A sound may occur from power supply at peak loading.





External view

※ External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBA15F

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c**¶**°us ≜ CE UK **RoHS**



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.

Cover is optional

Series name
 Single output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *5
 C:with Coating

G:Low leakage current

E:Low leakage current and EMI class A

T : Vertical terminal block

J1 :VH (J.S.T.) connector type N :with Cover

(UL508 is acquired

[5V, 12V, 24V]) N1: with DIN rail and Cover

V:Output voltage setting potentiometer external-

*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.

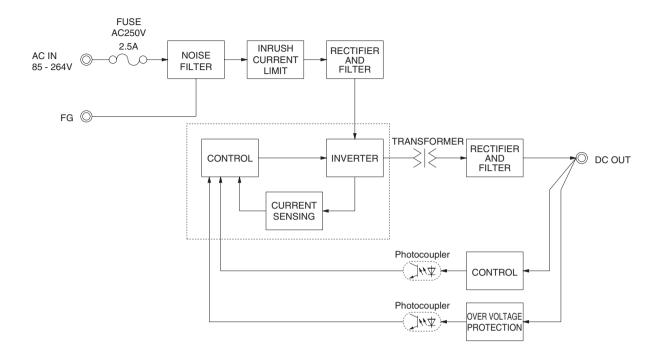
MODEL	PBA15F-3R3	PBA15F-5	PBA15F-9	PBA15F-12	PBA15F-15	PBA15F-24	PBA15F-48
MAX OUTPUT WATTAGE[W]	9.9	15	15.3	15.6	15	16.8	16.8
DC OUTPUT	3.3V 3A	5V 3A	9V 1.7A	12V 1.3A	15V 1A	24V 0.7A	48V 0.35A

	MODEL		PBA15F-3R3	PBA15F-5	PBA15F-9	PBA15F-12	PBA15F-15	PBA15F-24	PBA15F-48		
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to the	ne instruction ma	nual 1.1 Input vo	ltage *3)		
	CURRENT[A]	ACIN 100V	0.30typ (lo=100%)	0.4typ (lo=100%	6)						
	CONNENT[A]	ACIN 200V	0.15typ (lo=100%)	0.2typ (lo=100%	6)						
	FREQUENCY[Hz]		50/60 (47 - 440)	or DC							
INPUT	EFFICIENCY[%]	ACIN 100V	68typ	74typ	75typ	75typ	77typ	75typ	75typ		
	EFFICIENCI[/6]	ACIN 200V	68typ	75typ	77typ	78typ	80typ	78typ	78typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (Io=100%) (At cold start)							
	INNUSTI CUNNENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)							
	LEAKAGE CURREN	T[mA]	0.15/0.30max (A	ACIN 100V/240V	60Hz, lo=100%,	According to IEC	C62368-1,DENAN	۷)			
	VOLTAGE[V]		3.3	5	9	12	15	24	48		
	CURRENT[A]		3	3	1.7	1.3	1	0.7	0.35		
	LINE REGULATION[mV] *6	20max	20max	36max	48max	60max	96max	192max		
	LOAD REGULATION	[mV] *6	40max	40max	100max	100max	120max	150max	240max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max		
	nirrecillivp-pj	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max		
OUTPUT	nirree Noise[iiivp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	480max		
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	120max	150max	180max	290max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max		
	START-UP TIME[ms]		200typ(ACIN 100V	, Io=100%) * Start-ı	up time is 700ms typ	o for less than 1minu	ite of applying input	again from turning of	off the input voltage		
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT	range[v]	2.85 - 3.60	4.50 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	39.0 - 53.0		
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	48.00 - 49.92		
	OVERCURRENT PROT	ECTION		% of rated curre	nt and recovers a	automatically					
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	58.0 - 65.0		
OTHERS	OPERATING INDICA	TION	LED (Green)								
	REMOTE ON/OFF		None								
	INPUT-OUTPUT					$00V$ $50M\Omega$ min (A					
ISOLATION	INPUT-FG		· ·			$00V$ $50M\Omega$ min (A					
	OUTPUT-FG					V 50MΩmin (At					
	OPERATING TEMP.,HUMID.AND					Non condensing)		feet) max			
ENVIRONMENT	STORAGE TEMP.;HUMID.AND	ALTITUDE				00m (30,000feet)					
	VIBRATION			10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis								
SALLII AND	AGENCY APPROVALS (At only					nplies with DEN-					
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS	HARMONIC ATTENU	ATOR	Complies with IEC61000-3-2 (Not built-in to active filter *4) *7 31 × 78 × 85mm [1.22 × 3.07 × 3.35 inches] (without terminal block) (W×H×D) / 200g max (with cover : 235g max)								
OTHERS	CASE SIZE/WEIGHT			[1.22×3.07×3.0	35 inches] (witho	ut terminal block)	(W×H×D) / 20	00g max (with co	ver : 235g max)		
O.71E110	COOLING METHOD		Convection								

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about dynamic load and input response.
- Please contact us about class C.
- Parallel operation with other model is not possible
- Derating is required when operated with cover.

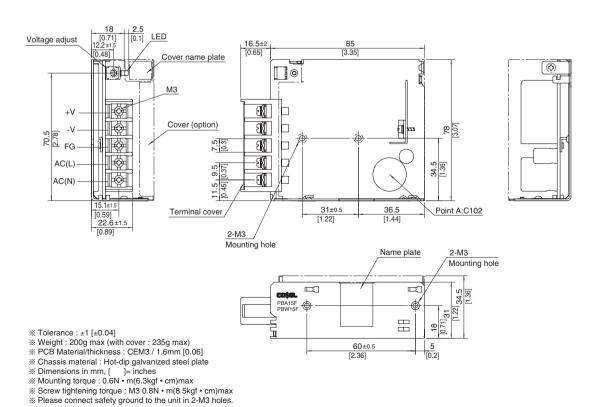
 A sound may occur from power supply at peak loading.





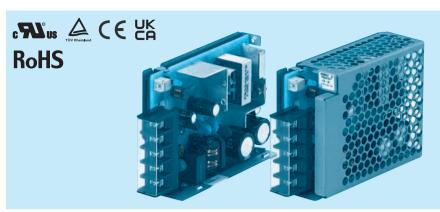
External view

** External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBA30F

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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.

Cover is optional

①Series name ②Single output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *5
 C:with Coating

G:Low leakage current

E:Low leakage current and EMI class A

T:Vertical terminal block
J1:VH (J.S.T.) connector type
N:with Cover

(UL508 is acquired [5V, 12V, 24V])

N1: with DIN rail and Cover

V:Output voltage setting potentiometer external-

*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.

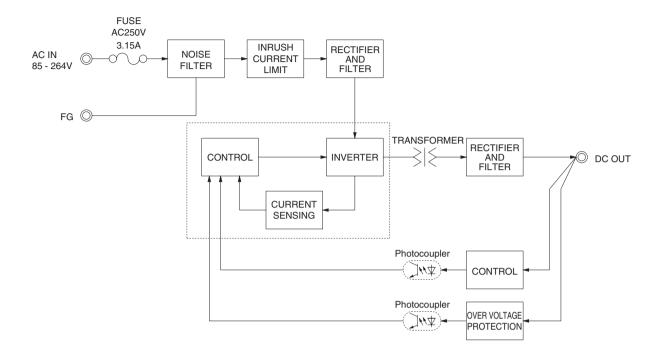
MODEL	PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48
MAX OUTPUT WATTAGE[W]	19.8	30	30.6	30	30	31.2	31.2
DC OUTPUT	3.3V 6A	5V 6A	9V 3.4A	12V 2.5A	15V 2A	24V 1.3A	48V 0.65A

	MODEL		PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48		
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to the	ne instruction ma	nual 1.1 Input vo	oltage *3)		
	CUDDENTIAL	ACIN 100V	0.50typ (lo=100%)	0.70typ (lo=100	%)						
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.40typ (lo=100	%)						
OUTPUT DISTRICT ON OUTPUT DEF OUTPUT DE	FREQUENCY[Hz]		50/60 (47 - 440	or DC							
INPUT	EFFICIENCY[%]	ACIN 100V	68typ	74typ	75typ	76typ	78typ	78typ	79typ		
	EFFICIENCT[%]	ACIN 200V	69typ	77typ	77typ	78typ	81typ	81typ	81typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start)							
	INNUSH CONNENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)							
	LEAKAGE CURREN	T[mA]	0.30/0.65max (A	ACIN 100V/240V	60Hz, lo=100%,	According to IEC	C62368-1,DENAN	۷)			
	VOLTAGE[V]		3.3	5	9	12	15	24	48		
	CURRENT[A]		6	6	3.4	2.5	2	1.3	0.65		
	LINE REGULATION[mV] *6	20max	20max	36max	48max	60max	96max	192max		
	LOAD REGULATION	[mV] *6	40max	40max	100max	100max	120max	150max	240max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max		
	···· · · · · · · · · · · · · · · · · ·	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max		
OUTPUT	TIII T EE NOISE[IIIVP-P]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max		
	TEMPERATURE REGULATION[mV]	0 to +50℃		50max	90max	120max	150max	240max	480max		
		-10 to +50℃		60max	120max	150max	180max	290max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max		
	START-UP TIME[ms]			, lo=100%) * Start-ı	up time is 700ms typ	for less than 1minu	ite of applying input	again from turning	off the input voltage		
	HOLD-UP TIME[ms]		20typ (ACIN 10		1						
	OUTPUT VOLTAGE ADJUSTMEN		2.85 - 3.60	4.50 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	39.0 - 53.0		
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	48.00 - 49.92		
DDOTEOTION	OVERCURRENT PROT			% of rated curre			1		1		
	OVERVOLTAGE PROTEC	- 1.1	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	58.0 - 65.0		
OTHERS	OPERATING INDICA	TION	LED (Green)								
	REMOTE ON/OFF		None								
	INPUT-OUTPUT			ute, Cutoff currer							
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature) AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩmin (At Room Temperature)								
	OUTPUT-FG										
	OPERATING TEMP.,HUMID.AND		- ,	efer to "Derating"	, .	<u>U,</u>		eet) max			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALIIIUDE		0 - 90%RH (Non							
	VIBRATION			10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis 196.1m/s² (20G), 11ms, once each X, Y and Z axis							
	ACENCY ADDDOVALS (At only	ν ΛC (mmt)		•			A N I				
SAFETY AND	AGENCY APPROVALS (At only CONDUCTED NOISE		· · · · · · · · · · · · · · · · · · ·								
NOISE REGULATIONS			Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
	HARMONIC ATTENU		Complies with IEC61000-3-2 (Not built-in to active filter *4) *7 31 × 78 × 103mm [1.22 × 3.07 × 4.06 inches] (without terminal block) (W × H × D) / 270g max (with cover : 310g max)								
OTHERS	CASE SIZE/WEIGHT			π[1.22 X 3.07 X 4	.uo incnesj (with	dut terminai bloci	() (W X H X D) / 2	70g max (with co	over:310g max)		
	COOLING METHOD		Convection								

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about dynamic load and input response
 *7 Please contact us about class C.
- Parallel operation with other model is not possible
- Derating is required when operated with cover.

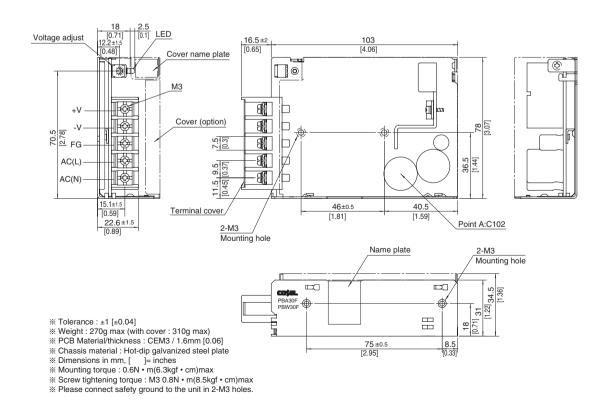
 A sound may occur from power supply at peak loading.





External view

** External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBA50F

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c**¶**°us ≜ CE UK **RoHS**

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
- (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block
 - J1 :VH (J.S.T.) connector type
 - R:with Remote ON/OFF

 - N :with Cover (Only 24V UL508 is acquired) N1 :with DIN rail and Cover
- V :Output voltage setting potentiometer external-

Cover is optional

*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.

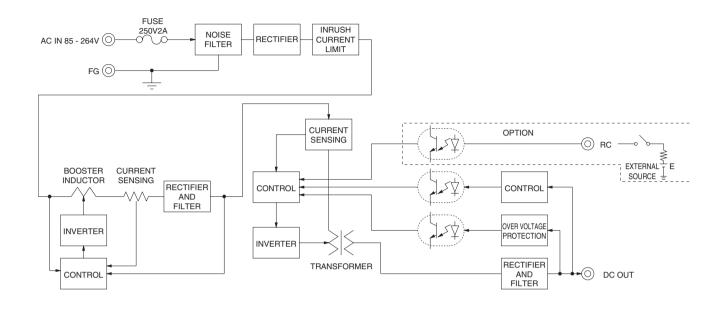
MODEL	PBA50F-3R3	PBA50F-5	PBA50F-9	PBA50F-12	PBA50F-15	PBA50F-24	PBA50F-36	PBA50F-48
MAX OUTPUT WATTAGE[W]	33	50	50.4	51.6	52.5	52.8	50.4	52.8
DC OUTPUT	3.3V 10A	5V 10A	9V 5.6A	12V 4.3A	15V 3.5A	24V 2.2A	36V 1.4A	48V 1.1A

	MODEL		PBA50F-3R3	PBA50F-5	PBA50F-9	PBA50F-12	PBA50F-15	PBA50F-24	PBA50F-36	PBA50F-48	
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 37	0 (AC50 or DC7	Please refer to	the instruction r	nanual 1.1 Input	voltage *4)		
	CURRENT[A]	ACIN 100V	0.5typ	0.7typ							
	CURRENT[A]	ACIN 200V	0.3typ	0.4typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EFFICIENCY[%]	ACIN 100V	75typ	80typ	79typ	80typ	81typ	82typ	83typ	83typ	
INPUT	EFFICIENCY[%]	ACIN 200V	76typ	82typ	81typ	82typ	83typ	84typ	85typ	85typ	
	POWER FACTOR(Io=100%)	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR(IO=100%)	ACIN 200V	0.87typ	0.93typ							
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start)							
	INKUSH CUKKENT[A]	ACIN 200V	30typ (lo=100%	(At cold start)							
	LEAKAGE CURRENT[r	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C62368-1,DENA	N)			
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48	
	CURRENT[A]		10	10	5.6	4.3	3.5	2.2	1.4	1.1	
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	ıV]	40max	40max	100max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	RIPPLE[IIIVP-P]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max	
	DIDDI E NOISEIMVa-ni	0 to +50°C * 1	120max	120max	150max	150max	150max	150max	250max	250max	
OUTPUT	RIPPLE NOISE[IIIVP-P]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max	
ī	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max	
	-1	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT	FRANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0	
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	35.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT					automatically					
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0	
OTHERS	OPERATING INDICATION	NC	LED (Green)								
	REMOTE ON/OFF		Optional (Requ								
	INPUT-OUTPUT · RC	*3				500V 50MΩmin					
ISOLATION	INPUT-FG					500V 50MΩmin	·				
	OUTPUT · RC-FG	*3				00V 50MΩmin (
	OPERATING TEMP.,HUMID.AND					(Non condensing		00feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing) 9.000m (30.000feet) max								
Littinoninen	VIBRATION		10 - 55Hz, 19.6m/s² (2G). 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT				each X, Y and Z						
SAFETY AND	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN								
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS				Complies with IEC61000-3-2 *6 31 x 82 x 120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (Wx HxD) / 280g max (with cover : 325g max)							
OTHERS	CASE SIZE/WEIGHT			m [1.22 × 3.23 ×	4.72 inches] (wit	hout terminal blo	ock) (W×H×D)	280g max (wit	h cover : 325g m	ax)	
	COOLING METHOD										

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and
- *4 Derating is required.

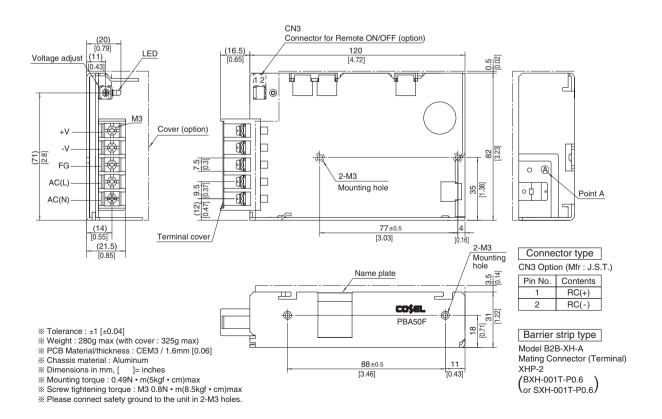
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

* External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBA75F

75



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 (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block

 - J1 :VH (J.S.T.) connector type
 - R:with Remote ON/OFF
 - N :with Cover (Only 24V UL508 is acquired) N1 :with DIN rail and Cover
 - V :Output voltage setting potentiometer external-

Cover is optional

*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.

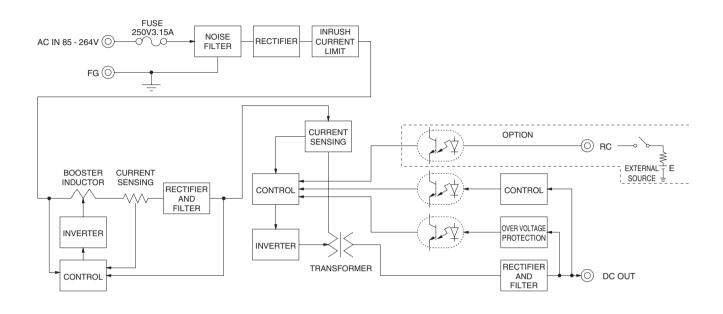
MODEL	PBA75F-3R3	PBA75F-5	PBA75F-9	PBA75F-12	PBA75F-15	PBA75F-24	PBA75F-36	PBA75F-48
MAX OUTPUT WATTAGE[W]	49.5	75	75.6	75.6	75	76.8	75.6	76.8
DC OUTPUT	3.3V 15A	5V 15A	9V 8.4A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A

	MODEL		PBA75F-3R3	PBA75F-5	PBA75F-9	PBA75F-12	PBA75F-15	PBA75F-24	PBA75F-36	PBA75F-48		
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 37	0 (AC50 or DC7	Please refer to	the instruction r	nanual 1.1 Input	voltage *4)			
	CUDDENTIAL	ACIN 100V	0.7typ	1.0typ				•	_			
	CURRENT[A]	ACIN 200V	0.4typ	0.5typ								
	FREQUENCY[Hz]		50/60 (47 - 63)	, ,								
	EEEIOJENOVIO I	ACIN 100V	77typ	81typ	80typ	81typ	82typ	83typ	84typ	84typ		
INPUT	EFFICIENCY[%]	ACIN 200V	78typ	83typ	82typ	83typ	84typ	85typ	86typ	86typ		
	DOWED FACTOR/L 4000/	ACIN 100V	0.98typ	0.99typ								
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ								
	INDUCU CURRENTIAL	ACIN 100V	15typ (lo=100%	(At cold start)								
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At cold start)									
	LEAKAGE CURRENT[I	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C62368-1,DENA	N)				
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48		
	CURRENT[A]		15	15	8.4	6.3	5	3.2	2.1	1.6		
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	ıV]	40max	40max	100max	100max	120max	150max	240max	240max		
	RIPPLE[mVp-p]	0 to +50°C * 1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[IIIVP-P]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
	RIPPLE NOISE[mVp-p	0 to +50°C * 1	120max	120max	150max	150max	150max	150max	250max	250max		
DUIPUI	RIPPLE NOISE[IIIVP-P]	-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max		
	, , -	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]		350typ(ACIN 10	00V, lo=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0		
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92		
	OVERCURRENT PROT				ent and recovers	automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0		
OTHERS	OPERATING INDICATION	NC	LED (Green)									
	REMOTE ON/OFF			ired external po								
	INPUT-OUTPUT · RC	*3				500V 50MΩmin						
ISOLATION	INPUT-FG					500V 50MΩmin	·					
	OUTPUT · RC-FG	*3				$00V$ 50M Ω min (
	OPERATING TEMP.,HUMID.AND							00feet) max				
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE				000m (30,000fee						
LITTING	VIBRATION					minutes each ald	ong X, Y and Z a	axis				
	IMPACT				each X, Y and Z							
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN									
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
REGULATIONS	HARMONIC ATTENUAT	ΓOR		EC61000-3-2 *								
OTHERS	CASE SIZE/WEIGHT			m [1.26 × 3.23 ×	5.31 inches] (wit	hout terminal blo	ck) (W×H×D)	350g max (wit	h cover : 400g m	ax)		
JILIIO	COOLING METHOD		Convection									

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and
- *4 Derating is required.

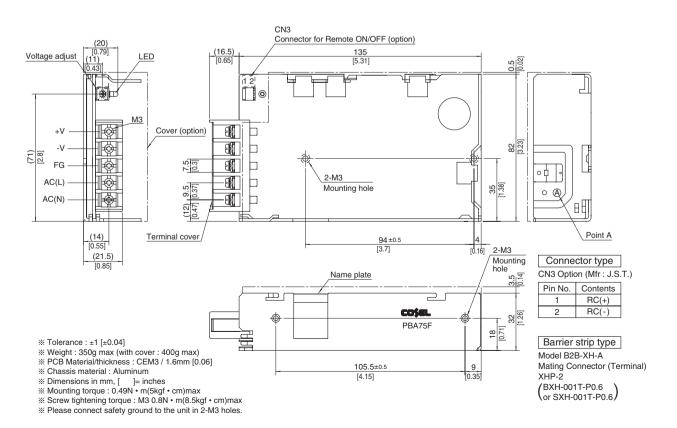
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

* External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBA100F

100

c**¶**°us ≜ CE UK **RoHS**

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
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block
 - J1 :VH (J.S.T.) connector type
 - (Only -12,-15,-24,-36,-48)
 - R:with Remote ON/OFF
- N :with Cover (Only 24V UL508 is acquired)
- N1 :with DIN rail and Cover
- V:Output voltage setting potentiometer external-

Cover is optional

*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.

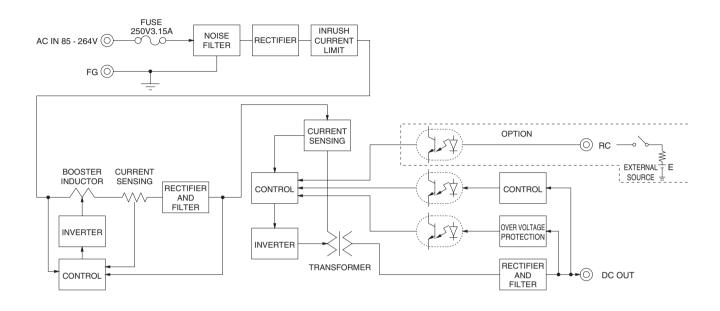
MODEL	PBA100F-3R3	PBA100F-5	PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48
MAX OUTPUT WATTAGE[W]	66	100	94.5	102	105	108	100.8	100.8
DC OUTPUT	3.3V 20A	5V 20A	9V 10.5A	12V 8.5A	15V 7A	24V 4.5A	36V 2.8A	48V 2.1A

	MODEL		PBA100F-3R3		PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 37	0 (AC50 or DC7	O Please refer to	the instruction r	manual 1.1 Input	voltage *4)	
	CUDDENTIAL	ACIN 100V	0.9typ	1.3typ						
	CURRENT[A]	ACIN 200V	0.5typ	0.7typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EEEIOIENOVI0/1	ACIN 100V	77typ	82typ	80typ	81typ	83typ	84typ	84typ	84typ
NPUT	EFFICIENCY[%]	ACIN 200V	79typ	84typ	82typ	83typ	86typ	86typ	86typ	86typ
	DOWED EACTOR/L- 4000/	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ						
	INDUCUI CURRENTIAL	ACIN 100V	20typ (lo=100%	(At cold start)						
	INRUSH CURRENT[A]	ACIN 200V	40typ (lo=100%	(At cold start)						
	LEAKAGE CURRENT[r	mA]	0.4/0.75max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1, DENAN)							
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48
	CURRENT[A]		20	20	10.5	8.5	7	4.5	2.8	2.1
	LINE REGULATION[m\	/1	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m		40max	40max	100max	100max	120max	150max	240max	240max
		0 to +50℃ *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max
OUTPUT RIPPLE NOIS TEMPERATURE REG	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max
		0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max
	' ' -1	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max
	START-UP TIME[ms]		350typ(ACIN 1	00V, lo=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 10	00V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0
	OUTPUT VOLTAGE SET	TING[V]	3.20 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 105	5% of rated curr	ent and recovers	automatically	'	'	'	•
PROTECTION	OVERVOLTAGE PROTEC		4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0
CIRCUIT AND	OPERATING INDICATION	ON	LED (Green)						·	
OTHERS	REMOTE SENSING		Optional (Only	-3R3, -5 Option	-K)					
	REMOTE ON/OFF		Optional (Regu	ired external po	wer source)					
	INPUT-OUTPUT · RC	*3	AC3,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)		
ISOLATION	INPUT-FG		AC2,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)		
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	500V 50MΩmin (At Room Tempe	rature)		
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +71℃ (F	Refer to "Derating	a"), 20 - 90%RH	(Non condensin	g) 3,000m (10,00	Offeet) max		
	STORAGE TEMP., HUMID. AND	ALTITUDE				000m (30,000fee				
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6	3m/s2 (2G), 3mi	nutes period, 60	minutes each ale	ong X, Y and Z	axis		
	IMPACT		196.1m/s ² (200	a), 11ms, once	each X, Y and Z	axis				
SAFETY AND	AGENCY APPROVALS (At only	y AC input)				omplies with DEI	N-AN			
NOISE	CONDUCTED NOISE	, , , , , , , ,	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B							
	HARMONIC ATTENUAT	TOR	Complies with IEC61000-3-2 *6							
	CASE SIZE/WEIGHT		_			hout terminal blo	ock) (W×H×D)	/ 440g max (wit	h cover : 500a m	ax)
OTHERS	COOLING METHOD		Convection				. , (,(,()	5 (****		,

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and
- *4 Derating is required.

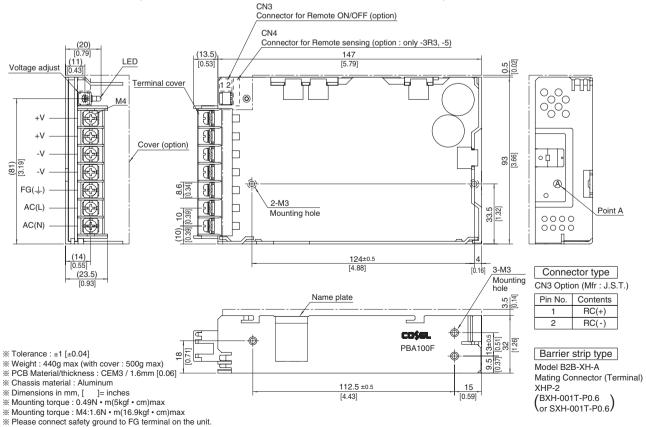
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover
- A sound may occur from power supply at peak loading.





External view

* External size of option T,J1,R,N1,V and K is different from standard model and refer to 7 Option of instruction manual for details.



PBA150F

c**¶**°us ≜ CE UK **RoHS**

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 (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block
 - J1 :VH (J.S.T.) connector type
 - (Only -12,-15,-24,-36,-48)
- R:with Remote ON/OFF
- N :with Cover (Only 24V UL508 is acquired)
- N1 :with DIN rail and Cover
- V:Output voltage setting potentiometer external-

Cover is optional

*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	PBA150F-3R3	PBA150F-5	PBA150F-9	PBA150F-12	PBA150F-15	PBA150F-24	PBA150F-36	PBA150F-48
MAX OUTPUT WATTAGE[W]	99	150	150.3	156	150	156	154.8	158.4
DC OUTPUT	3.3V 30A	5V 30A	9V 16.7A	12V 13A	15V 10A	24V 6.5A	36V 4.3A	48V 3.3A

SPECIFICATIONS

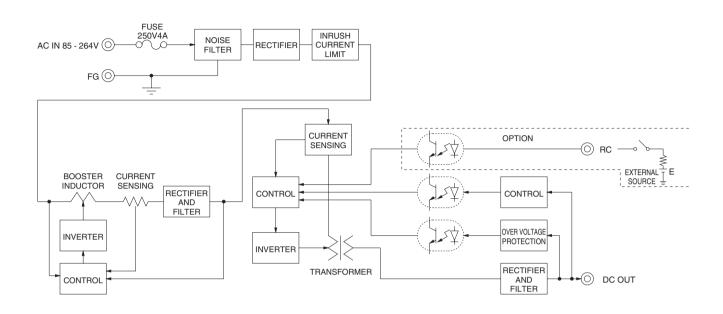
	MODEL		PBA150F-3R3	PBA150F-5	PBA150F-9	PBA150F-12	PBA150F-15	PBA150F-24	PBA150F-36	PBA150F-48	
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 370	0 (AC50 or DC7	Please refer to	the instruction r	nanual 1.1 Input	voltage *4)		
	CURRENT[A]	ACIN 100V	1.3typ	2.0typ							
	CURRENT[A]	ACIN 200V	0.7typ	1.0typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EEEIOIENOVI0/1	ACIN 100V	80typ	83typ	82typ	83typ	84typ	85typ	85typ	85typ	
INPUT	EFFICIENCY[%]	ACIN 200V	82typ	86typ	85typ	86typ	87typ	88typ	88typ	88typ	
	DOWED FACTOR/Is 4000/	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ							
	INDUCUI CURRENTIAL	ACIN 100V	20typ (lo=100%) (At cold start)							
	INRUSH CURRENT[A]	ACIN 200V	40typ (lo=100%	(At cold start)							
	LEAKAGE CURRENT[r	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C62368-1,DENA	N)			
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48	
	CURRENT[A]		30	30	16.7	13	10	6.5	4.3	3.3	
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	īV]	40max	40max	100max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	кіресеціімр-рі	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max	
	RIPPLE NOISE[mVp-p]	0 to +50°C * 1	120max	120max	150max	150max	150max	150max	250max	250max	
OUTPUT	RIPPLE NOISE[IIIVP-P]	-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		350typ(ACIN 10								
	HOLD-UP TIME[ms]		20typ (ACIN 10								
	OUTPUT VOLTAGE ADJUSTMENT		2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0	
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT	ECTION			ent and recovers						
PROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0	
	OPERATING INDICATION	NC	LED (Green)								
OTHERS	REMOTE SENSING			-3R3, -5 Option							
	REMOTE ON/OFF			red external pov							
	INPUT-OUTPUT · RC	*3				500V 50MΩmin	·				
ISOLATION	INPUT-FG					500V 50MΩmin					
	OUTPUT · RC-FG	*3				00V 50MΩmin (
	OPERATING TEMP.,HUMID.AND					(Non condensing		00feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE				000m (30,000fee					
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis								
SALLII AND	AGENCY APPROVALS (At only	/ AC input)									
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS	HARMONIC ATTENUAT	OR	_	EC61000-3-2 *							
OTHERS	CASE SIZE/WEIGHT			m [1.34 × 3.66 ×	6.61 inches] (wit	hout terminal blo	ock) (W×H×D)	/ 560g max (wit	h cover : 630g m	ax)	
	COOLING METHOD		Convection								

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and
- *4 Derating is required.

- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.

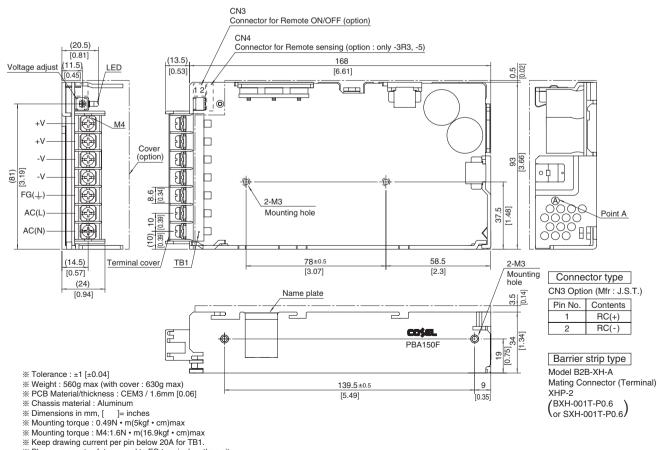
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External view

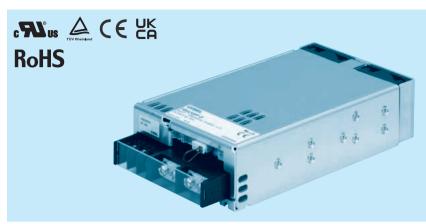
External size of option T,J1,R,N1,V and K is different from standard model and refer to 7 Option of instruction manual for details.



※ Please connect safety ground to FG terminal on the unit.

PBA300F

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 (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating

 - G:Low leakage current
 U:Operation stop voltage
- is set at a lower value
- F3:Reverse air exhaust
- type F4:Low speed fan
- N1 :with DIN rail

Refer to 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.

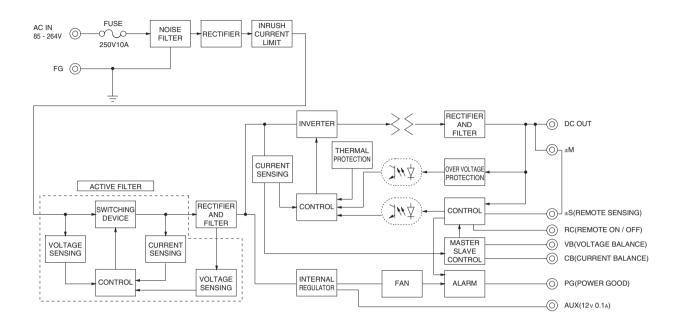
MODEL		PBA300F-3R3	PBA300F-5	PBA300F-7R5	PBA300F-12	PBA300F-15	PBA300F-24	PBA300F-36	PBA300F-48
MAX OUTPUT WATTAGE[W]		198	300	300	324	330	336	324	336
ACIN 100V		3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14A	36V 9A	48V 7A
DC OUTPUT	ACIN 200V *3	3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14(16.5)A	36V 9A	48V 7A

	MODEL		PBA300F-3R3	PBA300F-5	PBA300F-7R5	PBA300F-12	PBA300F-15	PBA300F-24	PBA300F-36	PBA300F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 350	(AC50 or DC70	Please refer to	the instruction r	nanual 7. option	*4)	
	CURRENT[A]	ACIN 100V	3typ	4.1typ						
	CONNENT[A]	ACIN 200V		2typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EFFICIENCY[%]	ACIN 100V	68typ	74typ	76typ	78typ	78typ	79typ	81typ	79typ
INPUT	EFFICIENCI[/6]	ACIN 200V	71typ	77typ	79typ	81typ	81typ	82typ	84typ	82typ
	POWER FACTOR	ACIN 100V	0.98typ (lo=100	1%)						
	POWER FACTOR		0.95typ (lo=100							
	INRUSH CURRENT[A]	ACIN 100V	20/40typ (Io=10							
	INNOSTI CONNENT[A]	ACIN 200V	40/40typ (lo=10	0%) (Primary in	rush current /Se	condary inrush o	current) (More th	en 3 sec. to re-s	start)	
	LEAKAGE CURRENT[r	nA]	0.45/0.75max (ACIN 100V/240\	/ 60Hz, lo=100%		EC62368-1,DEN	AN)		
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	CURRENT[A]	ACIN 100V		60	40	27	22	14	9	7
	CONNENT[A]	ACIN 200V *3	60	60	40	27	22	14(16.5)	9	7
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m	ıV]	40max	40max	60max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	nieere[iiivp-p]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
OUTPUT	HIPPLE NOISE[IIIVP-P]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max
	I TEMPERATURE REGIII ATIONIMVI E	0 to +50℃	40max	50max	75max	120max	150max	240max	360max	480max
	DRIFT[mV] START-UP TIME[ms]	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max
		*2	12max	20max	30max	48max	60max	96max	144max	192max
						500ms typ for less	than 1minute of a	applying input aga	in from turning off	the input voltage.
	HOLD-UP TIME[ms]			0/200V, lo=1009						
	OUTPUT VOLTAGE ADJUSTMENT		2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT								T	
PROTECTION	OVERVOLTAGE PROTEC		4.3 - 6.3	6.5 - 8.0	9.0 - 11.6	14.4 - 18.6	18.0 - 23.3	28.8 - 37.2	43.2 - 54.0	57.6 - 80.0
	OPERATING INDICATION	ON	LED (Green)							
OTHERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided				,			
	INPUT-OUTPUT · RC				ent = 10mA, DC5					
ISOLATION	INPUT-FG				ent = 10mA, DC5					
	OUTPUT · RC · AUX-F	G			t = 100mA, DC5					
	OUTPUT-RC · AUX				t = 100mA, DC5					
	OPERATING TEMP.,HUMID.AND				"), 20 - 90%RH			00feet) max		
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE			condensing) 9,					
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT	196.1m/s² (20G), 11ms, once each X, Y and Z axis								
OALETT AND		INCY APPROVALS (At only AC input) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN								
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *6							
neduLATIONS	HARMONIC ATTENUAT	TOR								
OTHERS	CASE SIZE/WEIGHT				< 6.69 inches] (w	ithout terminal b	ock and screw)	(W×H×D) /1.0	kg max	
	COOLING METHOD		Forced cooling	(internal fan)						

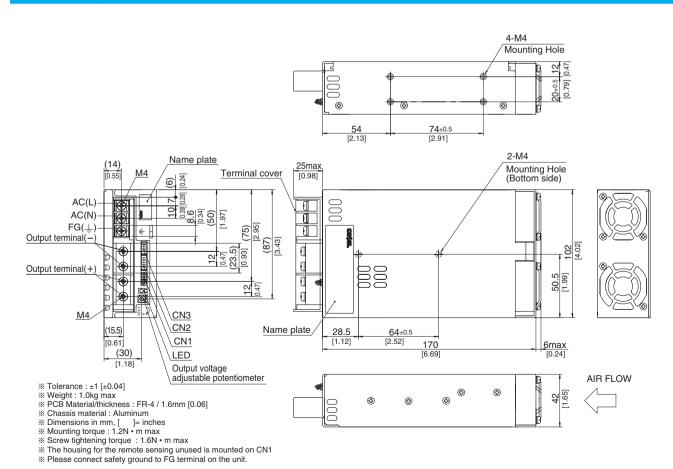
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
 - *6 Please contact us about class C.
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C . () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- $\divideontimes 4$ Derating is required.Consult us for details.

- *5 Please contact us about safety approvals for the model with option.
- A sound may occur from power supply at pulse loading.



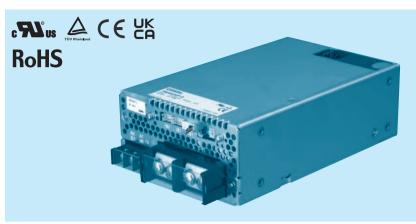


External view



PBA600F

600



Example recommended EMI/EMC filter NAC-16-472



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

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

- ①Series name ②Single output
- (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *6
 C:with Coating
 - G:Low leakage current
 U:Operation stop voltage
 - is set at a lower value
 - F1:With Long-Life fan
- F3:Reverse air exhaust
- type F4:Low speed fan

Refer to 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		PBA600F-3R3	PBA600F-5	PBA600F-7R5	PBA600F-12	PBA600F-15	PBA600F-24	PBA600F-36	PBA600F-48
MAX OUTPUT WATTAGE[W]		396	600	600	636	645	648	648	624
DO OUTDUT	ACIN 100V	3.3V 120A	5V 120A	7.5V 80A	12V 53A	15V 43A	24V 27A	36V 18A	48V 13A
DC OUTPUT	ACIN 200V *3	3.3V 120A	5V 120A	7.5V 80A	12V 53A	15V 43A	24V 27(31)A	36V 18A	48V 13A

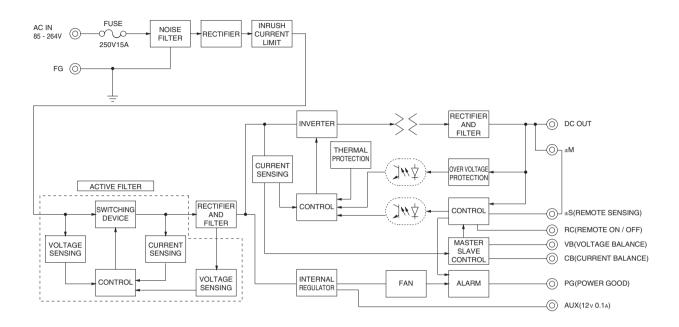
SPECIFICATIONS

	MODEL		PBA600F-3R3	PBA600F-5	PBA600F-7R5	PBA600F-12	PBA600F-15	PBA600F-24	PBA600F-36	PBA600F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 35	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)	
	CURRENT[A]	ACIN 100V	5.8typ	8.2typ						
	CORNENT[A]	ACIN 200V	3typ	4.1typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EFFICIENCY[%]	ACIN 100V	70typ	75typ	76typ	79typ	79typ	81typ	82typ	81typ
INPUT	EFFICIENCY[%]	ACIN 200V	72typ	77typ	79typ	82typ	82typ	84typ	84typ	83typ
	POWER FACTOR	ACIN 100V	0.98typ (Io=100)%)						
	POWER FACTOR	ACIN 200V	0.95typ (lo=100)%)						
	INRUSH CURRENT[A]	ACIN 100V			rush current /Se					
	INNUSH CONNENT[A]	ACIN 200V			rush current /Se				start)	
	LEAKAGE CURRENT[1	mA]	0.45/0.75max (ACIN 100V/240	√ 60Hz, lo=100%	According to I	EC62368-1, DEN	IAN)		
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	CURRENT[A]	ACIN 100V	120	120	80	53	43	27	18	13
	CURRENT[A]	ACIN 200V *3	120	120	80	53	43	27(31)	18	13
	LINE REGULATION[m\	V]	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m		40max	40max	60max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	ULLECTION P-b]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
OUIFUI	MIPPLE NOISE[IIIVP-P]	-20 - 0℃ *1	160max	160max	180max	180max	180max	180max	240max	500max
	TEMPERATURE REGULATION[mV]	0 to +50℃	40max	50max	75max	120max	150max	240max	360max	480max
	DRIFT[mV] START-UP TIME[ms]	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max
		*2		20max	30max	48max	60max	96max	144max	192max
						500ms typ for less	s than 1minute of a	applying input aga	in from turning off	the input voltage.
	HOLD-UP TIME[ms]		20typ (ACIN 10							
	OUTPUT VOLTAGE ADJUSTMENT		2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00
	OUTPUT VOLTAGE SET			5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT				ent or 101% of p					1
PROTECTION	OVERVOLTAGE PROTECT		Vo+0.66 - 1.32	Vo+1.0 - 2.0	Vo+1.5 - 3.0	Vo+2.4 - 4.8	Vo+3.0 - 6.0	Vo+4.8 - 9.6	Vo+7.2 - 14.4	Vo+4.8 - 12.0
CIRCUIT AND OTHERS		ON	LED (Green)							
UITERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided							
	INPUT-OUTPUT · RC				ent = 10mA, DC					
ISOLATION	INPUT-FG	_			ent = 10mA, DC					
	OUTPUT · RC · AUX-F	G			t = 100mA, DC5					
	OUTPUT-RC · AUX				it = 100mA, DC5					
	OPERATING TEMP.,HUMID.AND				g"), 20 - 90%RH			Offeet) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALIIIUDE			n condensing) 9,					
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT	. 10 : 1	196.1m/s² (20G), 11ms, once each X, Y and Z axis out) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN							
SAFETY AND	AGENCY APPROVALS (At only CONDUCTED NOISE	y AC input)	Utily UL60950-1, C-UL(CSA60950-1), EN62368-1 Compiles with DEN-AN Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B							
NOISE REGULATIONS		TOR	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *7							
	HARMONIC ATTENUAT	IUK				hout torminal I-I-	alt and agray\	N×H×D) /4 01::	~ may	
OTHERS	CASE SIZE/WEIGHT				7.48 inches] (wit	nout terminal blo	ock and screw) (\	/V X H X D) /1.6kg	g max	
	COOLING METHOD		Forced cooling (internal fan)							

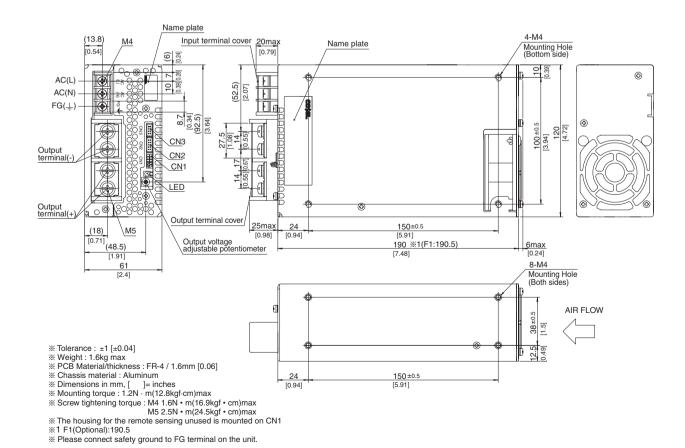
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C . () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.
- *5 Derating is required. Consult us for details.
- *6 Please contact us about safety approvals for the model with option.
- *7 Please contact us about class C.
- A sound may occur from power supply at pulse loading.

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External view



PBA1000F

1000



Example recommended EMI/EMC filter NAC-20-472

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
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *6
 C:with Coating

 - G:Low leakage current
 U:Operation stop voltage
 - is set at a lower value
 - F1:With Long-Life fan
- F3:Reverse air exhaust type
- F4:Low speed fan

Refer to instruction manual

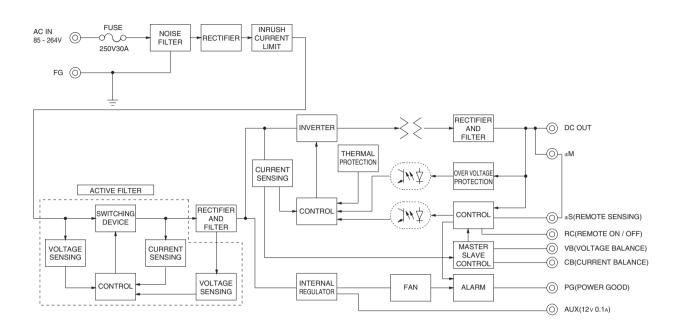
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48
MAX OUTPUT WATTAGE[W]		660	1000	1005	1056	1050	1056	1044	1056
DC OLITPLIT		3.3V 200A	5V 200A	7.5V 134A	12V 88A	15V 70A	24V 44A	36V 29A	48V 22A
		3.3V 200A	5V 200A	7.5V 134A	12V 88A	15V 70A	24V 44(51)A	36V 29A	48V 22A

	MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48	
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 35	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)		
	CURRENT[A]	ACIN 100V	9typ	13typ							
	CONNENT[A]	ACIN 200V	5typ	7typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EFFICIENCY[%]	ACIN 100V	74typ	79typ	80typ	82typ	82typ	84typ	84typ	84typ	
INPUT	EFFICIENCT[/6]	ACIN 200V		81typ	83typ	84typ	84typ	86typ	86typ	86typ	
	POWER FACTOR		0.98typ (lo=100								
	POWER FACTOR		0.95typ (lo=100								
	INRUSH CURRENT[A]				rush current /Se						
	INNOSTI CONNENT[A]	ACIN 200V			rush current /Se				-start)		
	LEAKAGE CURRENT[r	nA]	0.5/1.0max (AC	IN 100V/240V 6	60Hz, lo=100%, /	According to IEC	62368-1, DENA	N)			
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48	
	CURRENT[A]	ACIN 100V		200	134	88	70	44	29	22	
	CONNENTIAL	ACIN 200V *3	200	200	134	88	70	44(51)	29	22	
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m		40max	40max	60max	100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	MIFFEE[IIIVP-P]	-20 - 0℃ *1	140max	140max	160max	160max	160max	160max	160max	400max	
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max	
OUTFUT	HIFFEE NOISE[IIIVP-P]	-20 - 0℃ *1	160max	160max	180max	180max	180max	180max	240max	500max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	40max	50max	75max	120max	150max	240max	360max	480max	
	TEMI ENATONE NEGOEATION(IIIV)	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max	
	DRIFT[mV] START-UP TIME[ms]	*2	12max	20max	30max	48max	60max	96max	144max	192max	
				00typ(ACIN 100/200V, lo=100%) *Start-up time is 500ms typ for less than 1minute of applying input again from turning off the input volta							
	HOLD-UP TIME[ms]			0/200V, Io=100°							
	OUTPUT VOLTAGE ADJUSTMENT		2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00	
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT				ent or 101% of p			, ,			
PROTECTION	OVERVOLTAGE PROTECT		Vo+0.66 - 1.32	Vo+1.0 - 2.0	Vo+1.5 - 3.0	Vo+2.4 - 4.8	Vo+3.0 - 6.0	Vo+4.8 - 9.6	Vo+7.2 - 14.4	Vo+4.8 - 12.0	
CIRCUIT AND	OPERATING INDICATION	ON	LED (Green)								
OTHERS	REMOTE SENSING		Provided								
	REMOTE ON/OFF		Provided								
	INPUT-OUTPUT · RC				ent = 25mA, DC5						
ISOLATION	INPUT-FG	_			ent = 25mA, DC5						
	OUTPUT · RC · AUX-F	G			it = 100mA, DC5						
	OUTPUT-RC · AUX				t = 100mA, DC5						
	OPERATING TEMP., HUMID. AND				g"), 20 - 90%RH			00feet) max			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE			n condensing) 9,						
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis								
SAFETY AND	AGENCY APPROVALS (At only	AC input)									
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *7								
TLGULATIONS	HARMONIC ATTENUAT	TOR						>			
OTHERS	CASE SIZE/WEIGHT				9.45 inches] (with	hout terminal blo	ck and screw) (\	$N \times H \times D$) /2.2kç	g max		
	COOLING METHOD		Forced cooling	(internal fan)							

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
 - Ripple and ripple noise is measured on measuring board with capacitor of 22 $\mu\,\text{F}$ within 150mm from the output terminal.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual in detail.
- *4 Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.
- *5 Derating is required.Consult us for details. *6 Please contact us about safety approvals for the model with option.
- Please contact us about class C.
- A sound may occur from power supply at pulse loading.

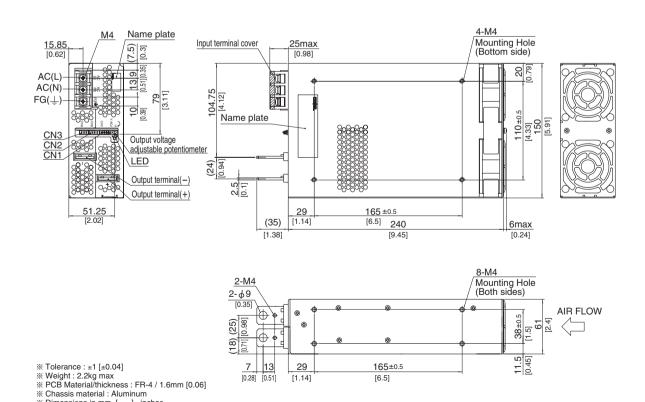




External view

Dimensions in mm, []= inches
 Mounting torque: 1.2N • m(12.8kgf • cm)max

Screw tightening torque : 1.6N • m(16.9kgf • cm)max
 The housing for the remote sensing unused is mounted on CN1
 Please connect safety ground to FG terminal on the unit.



PBA1500F

A 1500



Example recommended EMI/EMC filter NAC-20-472

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 (3) Output wattage

4 Universal input

⑤Output voltage

Optional *6
 C:with Coating

G:Low leakage current
U:Operation stop voltage

is set at a lower value

F1:With Long-Life fan

F3:Reverse air exhaust type

F4:Low speed fan

Refer to instruction manual

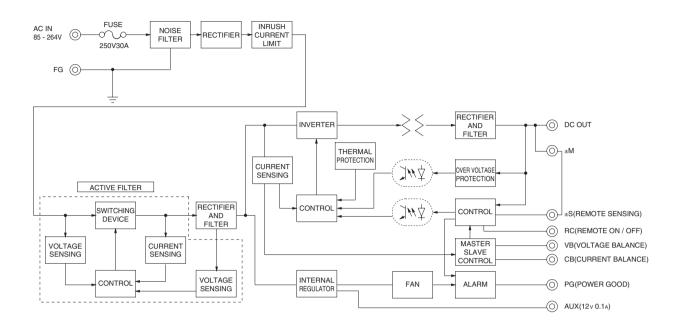
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL		PBA1500F-3R3	PBA1500F-5	PBA1500F-7R5	PBA1500F-12	PBA1500F-15	PBA1500F-24	PBA1500F-36	PBA1500F-48
MAX OUTPUT WATTAGE[W]		990	1500	1500	1500	1500	1680	1692	1680
DC OUTPUT	ACIN 100V	3.3V 300A	5V 300A	7.5V 200A	12V 125A	15V 100A	24V 65A	36V 42A	48V 32A
DC OUTPUT	ACIN 200V *3	3.3V 300A	5V 300A	7.5V 200A	12V 125A	15V 100A	24V 70(105)A	36V 47(70)A	48V 35A

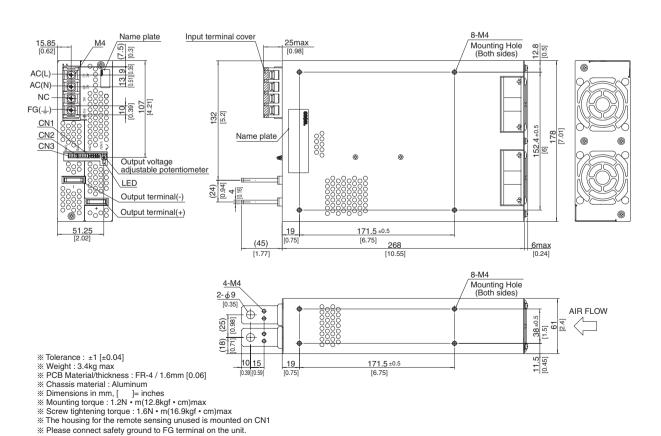
	MODEL		PBA1500F-3R3	PBA1500F-5	PBA1500F-7R5	PBA1500F-12	PBA1500F-15	PBA1500F-24	PBA1500F-36	PBA1500F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 370	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)	
	CURRENT[A]	ACIN 100V	15typ	19typ						
	CORRENT[A]	ACIN 200V	8typ	10typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EFFICIENCY[%]	ACIN 100V	72typ	77typ	81typ	81typ	83typ	84typ	84typ	84typ
INPUT	EFFICIENCY[%]	ACIN 200V	75typ	81typ	83typ	84typ	86typ	87typ	87typ	87typ
	DOWED FACTOR	ACIN 100V	0.98typ (lo=100)%)						
	POWER FACTOR	ACIN 200V	0.95typ (lo=100)%)						
	INDUCU CUDDENTIAL	ACIN 100V	20/40typ (lo=10	00%) (Primary in	rush current /Se	condary inrush c	current) (More the	an 10 sec. to re-	start)	
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (lo=10	00%) (Primary in	rush current /Se	condary inrush c	current) (More the	an 10 sec. to re-	start)	
	LEAKAGE CURRENT[r	nA]	0.9/1.5max (AC	IN 100V/240V 6	60Hz, lo=100%, /	According to IEC	62368-1, DENAI	N)		
	VOLTAGE[V]	-	3.3	5	7.5	12	15	24	36	48
		ACIN 100V	300	300	200	125	100	65	42	32
	CURRENT[A]	ACIN 200V *3	300	300	200	125	100	70(105)	47(70)	35
	LINE REGULATION[m\	/1	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m	-	40max	40max	60max	100max	120max	150max	150max	300max
		0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-20 - 0℃ *1	140max	140max	160max	160max	160max	160max	160max	400max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
OUTPUT	RIPPLE NOISE[mVp-p]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max
		0 to +50°C	40max	50max	75max	120max	150max	240max	360max	480max
	TEMPERATURE REGULATION[mV]	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max
	DRIFT[mV] START-UP TIME[ms]	*2	12max	20max	30max	48max	60max	96max	144max	192max
				00/200V, lo=100	%)					
	HOLD-UP TIME[ms]		20tvp (ACIN 10	0/200V, lo=100°	%)					
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	ent or 101% of p	eak current and	recovers automa	atically		•
PROTECTION	OVERVOLTAGE PROTECT	ION[V] *4	Vo+0.66 - 1.32	Vo+1.0 - 2.0	Vo+1.5 - 3.0	Vo+2.4 - 4.8	Vo+3.0 - 6.0	Vo+4.8 - 9.6	Vo+7.2 - 14.4	Vo+4.8 - 12.0
CIRCUIT AND	OPERATING INDICATION	NC	LED (Green)							
OTHERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided							
	INPUT-OUTPUT · RC				ent = 25mA, DC5					
ISOLATION	INPUT-FG				ent = 25mA, DC5					
ISOLATION	OUTPUT · RC · AUX-F0	G			t = 100mA, DC5					
	OUTPUT-RC · AUX				t = 100mA, DC5					
	OPERATING TEMP., HUMID. AND	ALTITUDE	-20 to +71°C (F	Refer to "Derating	j"), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	Ofeet) max		
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75℃, 2	0 - 90%RH (Nor	n condensing) 9,	000m (30,000fee	et) max			
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s ² (20G), 11ms, once each X, Y and Z axis							
SAFETY AND	AGENCY APPROVALS (At only	AC input)								
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class E							
REGULATIONS	HARMONIC ATTENUAT	TOR		EC61000-3-2 *						
OTHERS	CASE SIZE/WEIGHT		178×61×268n	nm [7.01 × 2.4 ×	10.55 inches] (w	thout terminal bl	ock and screw)	(W×H×D) /3.4I	kg max	
OTHERS	COOLING METHOD		Forced cooling	(internal fan)						

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
 - Ripple and ripple noise is measured on measuring board with capacitor of 22 $\mu\,\text{F}$ within 150mm from the output terminal.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual in detail.
- *4 Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.
- *5 Derating is required.Consult us for details. *6 Please contact us about safety approvals for the model with option.
- Please contact us about class C.
- A sound may occur from power supply at pulse loading.





External view



PBA1500T

1500



①Series name ②Single output

(3) Output wattage

Triple input phase

⑤Output voltage

Optional *6
 C:with Coating

G:Low leakage current
U:Operation stop voltage

is set at a lower value

F1:With Long-Life fan

F3:Reverse air exhaust type

F4:Low speed fan

Refer to instruction manual

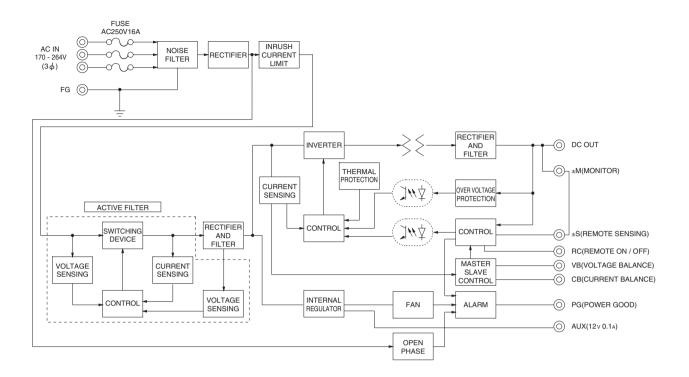
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL		PBA1500T-5	PBA1500T-12	PBA1500T-24	PBA1500T-48	
MAX OUTPUT WATTAGE[W]		1500	1500	1680	1680	
DC OUTPUT	ACIN 200V *3	5V 300A	12V 125A	24V 70(105)A	48V 35A	

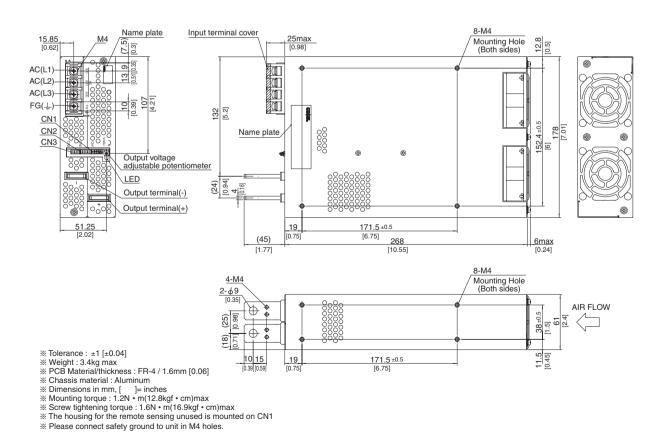
	MODEL		PBA1500T-5	PBA1500T-12	PBA1500T-24	PBA1500T-48
	VOLTAGE[V]		AC170 - 264 3φ (AC100 Pleas	e refer to the instruction manual	7. option * 5)	
	CURRENT[A]	ACIN 200V	6typ			
	FREQUENCY[Hz]		50/60 (47 - 63)			
INPUT	EFFICIENCY[%]	ACIN 200V	81typ	84typ	87typ	87typ
	POWER FACTOR	ACIN 200V	0.95typ (Io=100%)			
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (Io=100%) (Primary in	rush current /Secondary inrush of	current) (More than 10 sec. to re-	-start)
	LEAKAGE CURRENT[r	nA]	1.5max (ACIN 240V 60Hz, lo=1	00%, According to IEC62368-1,	DENAN)	
	VOLTAGE[V]		5	12	24	48
	CURRENT[A]	ACIN 200V *3	300	125	70(105)	35
	LINE REGULATION[m\	/]	20max	48max	96max	192max
	LOAD REGULATION[m	ıV]	40max	100max	150max	300max
	RIPPLE[mVp-p]	0 to +50°C *1	80max	120max	120max	150max
	MIFFEE[MVP-P]	-20 - 0°C *1	140max	160max	160max	400max
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	150max	150max	200max
OUTPUT	MIFFEE NOISE[IIIVP-P]	-20 - 0°C *1	160max	180max	180max	500max
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	120max	240max	480max
	TEMPERATORE REGULATION[IIV]	-20 to +50℃	75max	180max	290max	600max
	DRIFT[mV]	*2	20max	48max	96max	192max
	START-UP TIME[ms]		300typ(ACIN 200V, Io=100%) *	Start-up time is 500ms typ for less	than 1 minute of applying input aga	ain from turning off the input voltage.
	HOLD-UP TIME[ms]		20typ (ACIN 200V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT	FRANGE[V]	3.96 - 6.00	8.25 - 13.20	16.50 - 26.40	38.40 - 56.00
	OUTPUT VOLTAGE SET	TING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 105% of rated curre	ent or 101% of peak current and	recovers automatically	
PROTECTION	OVERVOLTAGE PROTECT	ION[V] *4	Vo+1.0 - 2.0	Vo+2.4 - 4.8	Vo+4.8 - 9.6	Vo+2.0 - 12.0
CIRCUIT AND OTHERS	OPERATING INDICATION	NC	LED (Green)			
OTHERS	REMOTE SENSING		Provided			
	REMOTE ON/OFF		Provided			
	INPUT-OUTPUT · RC			ent = 25mA, DC500V 50M Ω min	, ,	
ISOLATION	INPUT-FG			ent = 25mA , DC500V $50\text{M}\Omega$ min	· · · · · · · · · · · · · · · · · · ·	
	OUTPUT · RC · AUX-F	G		$t = 100 \text{mA}, DC500V 50M\Omega \text{min}$	<u> </u>	
	OUTPUT-RC · AUX			$t = 100 \text{mA}, DC500V 50M \Omega \text{min}$		
	OPERATING TEMP., HUMID. AND	ALTITUDE		g"), 20 - 90%RH (Non condensing	0	
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	- '	n condensing) 9,000m (30,000fee	*	
	VIBRATION			nutes period, 60minutes each ale	ong X, Y and Z axis	
	IMPACT		196.1m/s ² (20G), 11ms, once e			
SAFETY AND NOISE	AGENT ATT HOVAED (AT OH)	/ AC input)), EN62368-1 Complies with DEI		
REGULATIONS	CONDUCTED NOISE				B, EN55022-B, additional EMI/EMC	
OTHERS	CASE SIZE/WEIGHT		• • • • • • • • • • • • • • • • • • • •	10.55 inches] (without terminal b	lock and screw) (W x H x D) /3.4	kg max
	COOLING METHOD		Forced cooling (internal fan)			

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
 - Ripple and ripple noise is measured on measuring board with capacitor of 22 µ F within 150mm from the output terminal.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
 *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual in detail.
- *4 Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.
- *5 Derating is required. Consult us for details.
- Please contact us about safety approvals for the model with option.
 - A sound may occur from power supply at pulse loading.





External view



PBW15F

15

c**¶**°us ≜ C€ CA

RoHS







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 ②Dual output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- ® Optional *10
 C :with Coating
 - G:Low leakage current
 - E:Low leakage current and EMI class A
 - T: Vertical terminal block
 - J1 :VH (J.S.T.) connector type
- N :with Cover
- N1:with DIN rail
- V:Output voltage setting potentiometer external-

Cover is optional

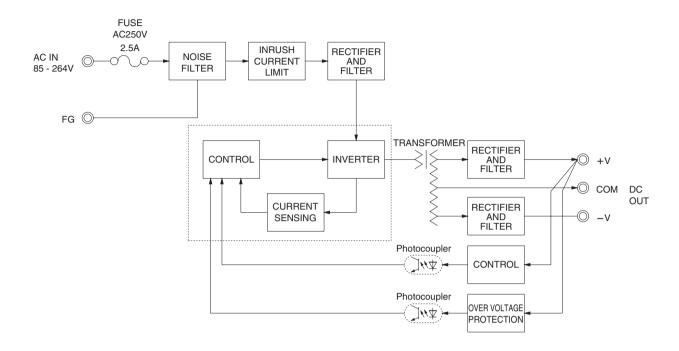
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL		PBW15F-12	PBW15F-15
MAX OUTPUT WATTAGE[W] *5		16.8	15.0
	VOLTAGE[V] *6	±12 (+24)	±15 (+30)
DC OUTPUT	CURRENT1[A]	0.7	0.5
	CURRENT2[A] *5	1.4	1.0

	MODEL		PBW15F-12		PBW15F-15			
	VOLTAGE[V]		AC85 - 264 1 or DC110 - 370	0 (AC50 or DC70 Please refer to	the instruction manual 1.1 Input	voltage *8)		
		ACIN 100V	0.40typ (CURRENT1)					
	CURRENT[A]	ACIN 200V	0.20typ (CURRENT1)					
	FREQUENCY[Hz]		50/60 (47 - 440) or DC					
INPUT	ACIN 100V		74typ (CURRENT1)		78typ (CURRENT1)			
	EFFICIENCY[%]	ACIN 200V	77tvp (CURRENT1)		80typ (CURRENT1)			
		ACIN 100V	15typ (CURRENT1) (At cold sta	art)	131- (
	INRUSH CURRENT[A]	ACIN 200V	30typ (CURRENT1) (At cold start)					
	LEAKAGE CURRENT[/ 60Hz, lo=100%, According to I	EC62368-1,DENAN)			
	VOLTAGE[V]		±12	/ (+24V reference number)	±15	/ (+30V reference number)		
	CURRENT1[A]		0.7	/ 0.7	0.5	/ 0.5		
	CURRENT2[A]	*5	1.4	/-	1.0	/-		
	LINE REGULATION[m\	/] *9	60max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1	[mV] *13	600max	/ 150max	600max	/ 150max		
OUTPUT	LOAD REGULATION 2	[mV] *1	750max	/-	750max	/-		
	DIDDI Elmiya mi	0 to +50°C *1	120max	/ 240max	120max	/ 240max		
	RIPPLE[mVp-p]	-10 - 0℃ *1	160max	/ 320max	160max	/ 320max		
	DIDDLE NOICE(V1	0 to +50°C *1	150max	/ 300max	150max	/ 300max		
	RIPPLE NOISE[mvp-p]	-10 - 0℃ *1	180max	/ 360max	180max	/ 360max		
	TEMPERATURE REQUIRATIONS	0 to +50℃	120max		150max			
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	150max		180max			
	DRIFT[mV]	*2	48max		60max			
	START-UP TIME[ms]		200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage.					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	9.60 - 13.2 (+V and -V are simultaneously adjusted)		13.2 - 16.5 (+V and -V are simultaneously adjusted)			
			11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1)			NT1)		
	OVERCURRENT PROT	ECTION	Works over 105% of rated curre	ent and recovers automatically				
CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	16.8 - 24.0		20.0 - 29.0			
OTHERS	OPERATING INDICATION	NC	LED (Green)					
	REMOTE ON/OFF		None					
	INPUT-OUTPUT			ent = 10mA, DC500V 50M Ω mir				
ISOLATION	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	-10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max					
ENVIRONMENT		ALTITUDE						
LIVINONWLIVI	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis					
	IMPACT		196.1m/s ² (20G), 11ms, once e					
SALLII AND		y AC input)	UL60950-1, C-UL(CSA60950-1					
NOISE	CONDUCTED NOISE			sB, VCCI-B, CISPR22-B, EN550				
REGULATIONS		ГOR		lot built-in to active filter *7) *1				
OTHERS	CASE SIZE/WEIGHT	PERATURE REGULATION[mV] O to +50°C -10 to +		.35 inches] (without terminal bloc	ck) $(W \times H \times D)$ / 200g max (with	cover : 235g max)		
UTILITO	COOLING METHOD		Convection					

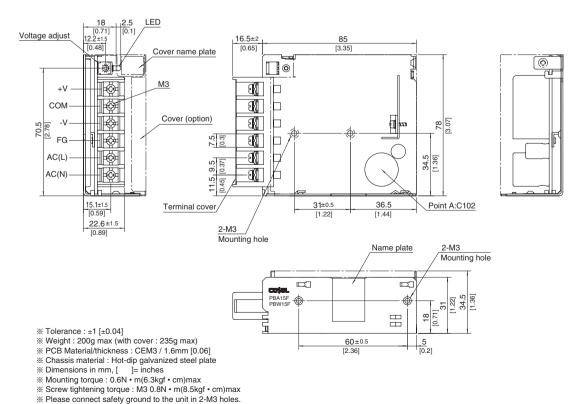
- *1 Measured by 20MHz oscilloscope or Ripple-Noise
- meter(equivalent to KEISOKU-GIKEN: RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *4 Figures for 0 to rated current 2.The current not measured
- The sum of +power -power must be less than output power.
- *6 ±12,±15 can be used as +24 and +30. *7 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
- *8 Derating is required.
- *9 Figures to rated current 1.

- *10 Please contact us about safety approvals for the model with option.
- 1 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from power supply at peak loading.



External view

※ External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBW30F

30

c**¶**°us ≜ CE UK **RoHS**

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 ②Dual output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- ® Optional *10
 C :with Coating
 - G:Low leakage current
 - E:Low leakage current and EMI class A
 - T: Vertical terminal block
 - J1 :VH (J.S.T.) connector type
- N :with Cover
- N1:with DIN rail
- V:Output voltage setting potentiometer external-

Cover is optional

*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.

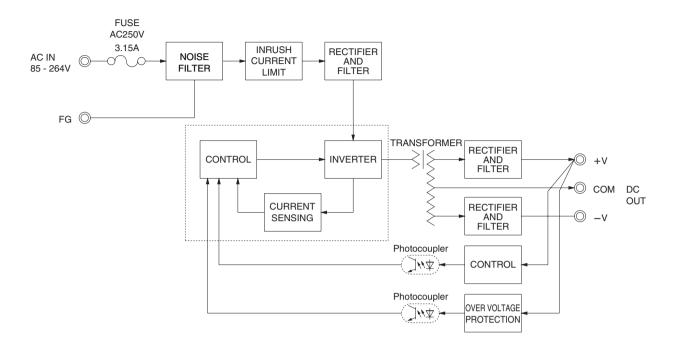
MODEL		PBW30F-5	PBW30F-12	PBW30F-15
MAX OUTPUT WATTAGE[W] *5		15	31.2	30.0
DC OUTPUT	VOLTAGE[V] *6	±5 (+10)	±12 (+24)	±15 (+30)
	CURRENT1[A]	1.5	1.3	1.0
	CURRENT2[A] *5	2.0	1.7	1.4

	MODEL		PBW30F-5		PBW30F-12		PBW30F-15			
	VOLTAGE[V]		AC85 - 264 1 d	or DC110 - 370 (AC50 or	DC70 Please re	efer to the instruction manua	l 1.1 Input voltage 3	(8)		
	OUDDENTIAL	ACIN 100V	0.4typ (CURRENT1) 0.7typ (CURRENT1)							
	CURRENT[A]	ACIN 200V				.4typ (CURRENT1)				
	FREQUENCY[Hz]		50/60 (47 - 440) or DC							
INPUT	ACIN 100V		75typ (CURRENT1)		77typ (CURRE	ENT1)	78typ (CURRENT1)			
	EFFICIENCY[%]	ACIN 200V	75typ (CURRE	NT1)	81typ (CURRE	ENT1)	79typ (CURRENT1)		
				NT1) (At cold start)	7,	·				
	INRUSH CURRENT[A]		30typ (CURRE	NT1) (At cold start)						
	LEAKAGE CURRENT[mA]		0.30/0.65max (ACIN 100V/240V 60Hz, lo=	100%, Accordin	ng to IEC62368-1,DENAN)				
	VOLTAGE[V]		±5	/ (+10V reference number)	±12	/ (+24V reference number)	±15	/ (+30V reference number)		
	CURRENT1[A]		1.5	/ 1.5	1.3	/ 1.3	1.0	/ 1.0		
	CURRENT2[A]	*5	2.0	/ -	1.7	/ -	1.4	/ -		
	LINE REGULATION[m\	V] *11	20max	/ 36max	60max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1	[mV] *11	250max	/ 100max	600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2	[mV] *11	500max	/ -	750max	/ -	750max	/ -		
OUTDUT	DIDDI E(V1	0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	/ 320max	160max	/ 320max	160max	/ 320max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
	RIPPLE NOISE[mvp-p]	-10 - 0°C *1	160max	/ 360max	180max	/ 360max	180max	/ 360max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max		120max		150max			
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max		150max		180max			
	DRIFT[mV] *2		20max		48max		60max			
	START-UP TIME[ms]		200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage.							
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	4.99 - 6.00 (+V and -V are simultaneously adjusted)		9.60 - 13.2 (+V and -V are simultaneously adjusted)		13.2 - 16.5 (+V and -V a	are simultaneously adjusted)		
	OUTPUT VOLTAGE SET	TING[V]	4.99 - 5.30 (+V and -V CURRENT1)		11.5 - 12.5 (+V and -V CURRENT1)		14.4 - 15.6 (+V and -V CURRENT1)			
	OVERCURRENT PROT	ECTION	Works over 10	Works over 105% of rated current and recovers automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[V]	6.90 - 10.0 16.8 - 24.0				20.0 - 29.0			
OTHERS	OPERATING INDICATION	ON	LED (Green)							
	REMOTE ON/OFF		None							
	INPUT-OUTPUT					Ω min (At Room Temperatu				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)							
	OPERATING TEMP., HUMID.AND									
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max							
Littinionini	VIBRATION			3m/s2 (2G), 3minutes period		ch along X, Y and Z axis				
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis							
SAFETY AND	AGENCY APPROVALS (At only	y AC input)		UL(CSA60950-1), EN62368						
NOISE	CONDUCTED NOISE		_	FCC Part15 classB, VCCI-E						
REGULATIONS	HARMONIC ATTENUAT	TOR		IEC61000-3-2 (Not built-in t						
OTHERS	CASE SIZE/WEIGHT			m [1.22 x 3.07 x 4.06 inches] (without termin	nal block) (W×H×D) / 270	g max (with cover : 3	310g max)		
	COOLING METHOD		Convection							

- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *4 Figures for 0 to rated current 2.The current not measured
- The sum of +power -power must be less than output power.
- *6 ±5,±12,±15 can be used as +10,+24 and +30. *7 When two or more units are used,they may not comply with
- the harmonic attenuator. Please contact us for details
- *8 Derating is required.
- *9 Figures to rated current 1.

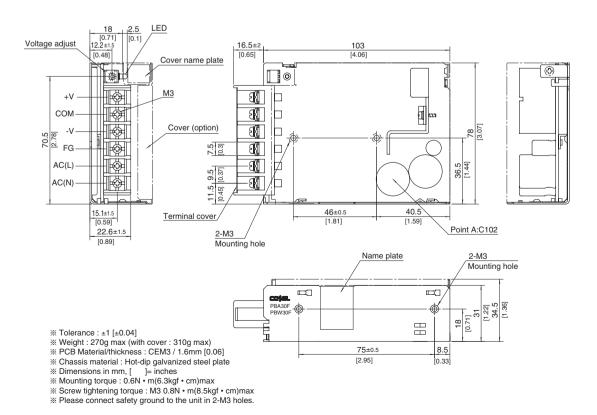
- *10 Please contact us about safety approvals for the model with option.
- 1 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from power supply at peak loading.





External view

** External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



PBW50F

50



1) Series name 2) Dual output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *9
 C:with Coating

G:Low leakage current (0.15mA max / ACIN 240V)

E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block

J1 :VH (J.S.T.) connector type

R:with Remote ON/OFF

N :with Cover

N1:with DIN rail

V :Output voltage setting potentiometer external-

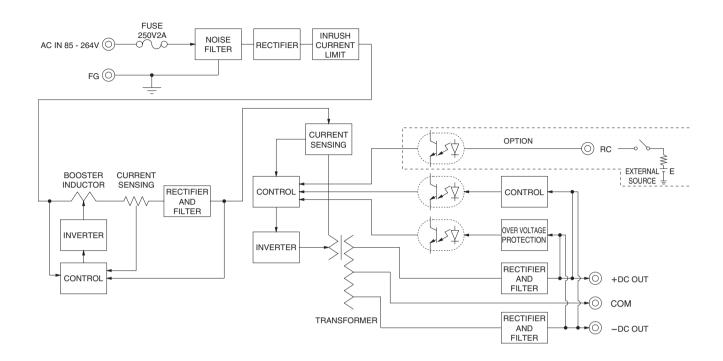
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL		PBW50F-5	PBW50F-12	PBW50F-15
MAX OUTPUT WATTAGE[W] *6		30	50.4	51
	VOLTAGE[V] *8	±5 (+10)	±12 (+24)	±15 (+30)
	CURRENT1[A]	3.0	2.1	1.7
	CURRENT2[A] * 6	4.0	2.7	2.4

	MODEL		PBW50F-5		PBW50F-12		PBW50F-15				
	VOLTAGE[V]		AC85 - 264 1 φ or D	C120 - 370 (AC50 or	DC70 Please refer to t	he instruction manua	al 1.1 Input voltage *3	3)			
	OUDDENTIAL	ACIN 100V	0.45typ (CURRENT1)		0.70typ (CURRENT1)						
	CURRENT[A]	ACIN 200V	0.30typ (CURRENT1)	0.40typ (CURRENT1)						
	FREQUENCY[Hz]		50/60 (47 - 63)								
	ACIN 100V		76typ (CURRENT1)		81typ (CURRENT1)		81typ (CURRENT1)				
INPUT	EFFICIENCY[%] ACIN 200V		77typ (CURRENT1)		83typ (CURRENT1)		83typ (CURRENT1)				
	POWER FACTOR(Io=100%)	ACIN 100V	0.98typ		0.99typ						
	POWER FACTOR(IO=100%)	ACIN 200V	0.87typ		0.93typ						
	INRUSH CURRENT[A]	ACIN 100V									
	INNUSH CONNENT[A]	ACIN 200V		Otyp (CURRENT1) (At cold start)							
	LEAKAGE CURRENT[r	nA]	0.40/0.75max (ACIN		:100%, According to IE						
	VOLTAGE[V]		±5	/ (+10V reference number)	±12	/ (+24V reference number)	±15	/ (+30V reference number)			
	CURRENT1[A]		3.0	/ 3.0	2.1	/ 2.1	1.7	/ 1.7			
ī	CURRENT2[A]	*6	4.0	/ -		/ -	2.4	/ -			
	LINE REGULATION[m\		20max	/ 36max	48max	/ 96max	60max	/ 96max			
	LOAD REGULATION 1	mV] *4	250max	/ 100max		/ 150max	600max	/ 150max			
RIPPLE[mVp-p]	LOAD REGULATION 2	mV] *5	500max	/ -	750max	/ -	750max	/ -			
	DIDDI E[mVn-n]	0 to +50°C * 1	80max	/ 240max	120max	/ 240max	120max	/ 240max			
	HIFF EE[IIIVP-P]	-10 - 0℃ *1	140max	/ 320max	160max	/ 320max	160max	/ 320max			
	RIPPLE NOISE[mVp-p]	0 to +50°C * 1	120max	/ 300max	150max	/ 300max	150max	/ 300max			
	TIII T EE NOIGE[IIIVP-P]	-10 - 0℃ *1	160max	/ 360max	180max	/ 360max	180max	/ 360max			
	TEMPERATURE REGULATION[mV]	0 to +50℃			120max		150max				
		-10 to +50℃			150max		180max				
	DRIFT[mV]	*2	20max 48max 60max								
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT		4.99 - 6.00 (+V and -V are		9.60 - 13.2 (+V and -V are			e simultaneously adjusted)			
	OUTPUT VOLTAGE SET		4.99 - 5.30 (+V and		11.5 - 12.5 (+V and -	V CURRENT1)	14.4 - 15.6 (+V and	-V CURRENT1)			
PROTECTION	OVERCURRENT PROT		Works over 105% of	rated current and rec			_				
CIRCUIT AND	OVERIVOEIAGE I HOTEO		6.90 - 10.0		16.8 - 24.0		20.0 - 29.0				
OTHERS	OPERATING INDICATION	אכ	LED (Green)								
	REMOTE ON/OFF	_	Optional (Required external power source)								
	INPUT-OUTPUT · RC	*7									
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
	OUTPUT · RC-FG	*/	7 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max								
	OPERATING TEMP.,HUMID.AND) max				
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALIIIUDE			ng) 9,000m (30,000feet						
	VIBRATION			(2G), 3minutes perions, once each X, Y a	d, 60minutes each alor	ng X, Y and Z axis					
	IMPACT AGENCY APPROVALS (At only	. 10:1				ANI					
SAFETY AND NOISE	CONDUCTED NOISE	AC Input)			I-1 Complies with DEN- B, CISPR22-B, EN5501						
	HARMONIC ATTENUAT	OP	Complies with FCC F		D, CIOPRZZ-D, ENSSUI	I-D, ENDOUZZ-B					
	CASE SIZE/WEIGHT	UR			(without terminal bloc	₩ (W > H > D) / 200	a may (with cover : 22	5a may)			
OTHERS	COOLING METHOD		Convection	2 X 3.23 X 4.72 INCHES	oj (without terminal bloc	л) (W XПXD) / 280	y max (with cover: 32	oy max)			
	COOLING METHOD		Convection								

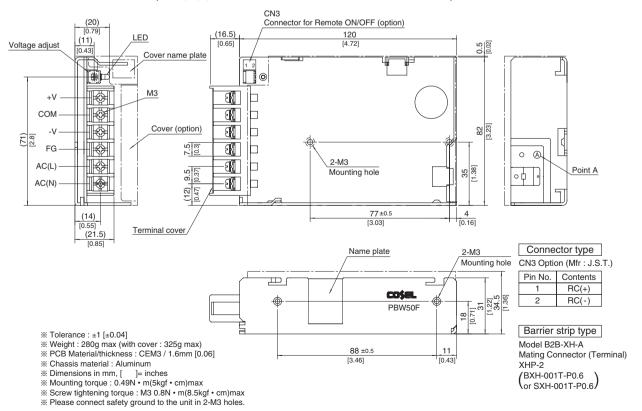
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN : RM101).
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *5 Figures for 0 to rated current 2. The current not measured
- The sum of +power -power must be less than output power. RC is applied to remote ON/OFF option. RC is isolated with input/output and FG.
- *8 $\pm 5, \pm 12, \pm 15$ can be used as +10,+24 and +30.
- *9 Please contact us about safety approvals for the model with
- *10 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from power supply at peak loading.





External view

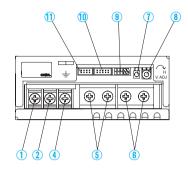
** External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



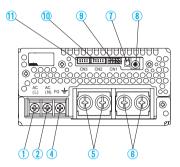
Terminal Blocks

*The following information covers PBA300F - 1500F. Please see External View for PBA10F - 150F and PBW15F - 50F.

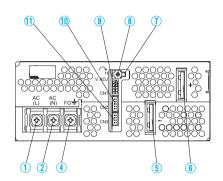
PBA300F



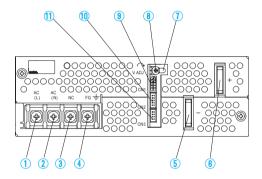
PBA600F



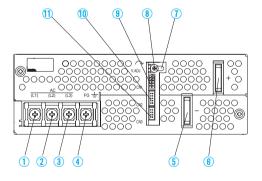
PBA1000F



PBA1500F



PBA1500T



*PBA300F - 1500F

①AC (L)] Input Terminals AC85 - 264V ϕ 47 - 63Hz

②AC (N) ∫ (M4)

③NC

④Frame ground (M4 ±)

⑤-Output

6+Output

7LED

Output voltage adjustable potentiometer

9CN1

10CN2 Connectors

(1)CN3

*Please see Optional Parts for dedicated harnesses.

*PBA1500T

1)AC (L1)

2AC (L2)

(3)AC (L3)

④Frame ground (M4 ±)

⑤-Output

(6)+Output

(7)LED

Output voltage adjustable potentiometer

9CN1

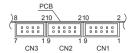
10CN2 Connectors

①CN3

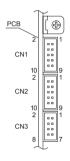


Terminal Blocks

PBA300F, 600F Pin Configuration



▶ PBA1000F, 1500F Pin Configuration



Pin Configuration and Functions of CN1 and CN2

Pin No.		Function
1	+M	: Self sensing terminal. (Do not wire for external connection.)
2	+S	: +Sensing
3	-M	: Self sensing terminal. (Do not wire for external connection.)
4	-S	: -Sensing
5	VB	: Voltage balance
6	CB	: Current balance
7	TRM	: Adjustment of output voltage
8	-S	: -Sensing
9	RC2	: Remote ON/OFF
10	RCG	: Remote ON/OFF (GND)

Pin Configuration and Functions of CN3

Pin No.		Function	
1	-S	: -Sensing	
2	-S	: -Sensing	
3	AUX	: Auxiliary output	(12V 0.1A)
4	RC1	: Remote ON/OFF	
5	AUXG	: Auxiliary output (GND)	
6	N.C.	: No connection	
7	PG	: Alarm	
8	PGG	: Alarm (GND)	

^{*}Common signs among CN1, CN2 and CN3 such as -S represent the same potential.

Matching connecters and terminals on CN1, CN2 and CN3

Connector		Housing	Terminal		Mfr.
CN1 CN2	S10B-PHDSS	PHDR-10VS	Reel	: SPHD-002T-P0.5 : BPHD-001T-P0.5	
CN3	S8B-PHDSS	PHDR-08VS	LUUSE	. BF11D-0011-F0.5	

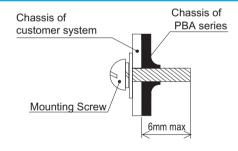
Assembling and Installation Method

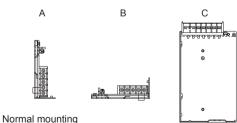
Installation Method

■Do not insert a screw more than 6mm from the outside of a power supply to keep enough insulation distance between the screw and internal components.

PBA10F, PBA15F, PBW15F, PBA30F, PBW30F, PBA50F, PBW50F, PBA75F, PBA100F and PBA150F

- ■If you use two or more power supplies side by side, please keep a sufficient distance between them to allow enough air ventilation.
- ■Ambient temperature around each power supply should not exceed the temperature range shown in "derating".



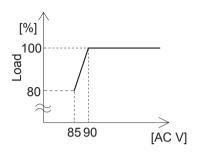


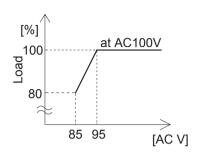
PBA300F, PBA600F, PBA1000F, PBA1500F and PBA1500T

- ■The power supplies have a built-in forced cooling fan. Do not block ventilation at the suction side (terminal block side) and its opposite side (fan installation side). If you need to secure a power supply by screws, securely fix it, taking into consideration of its weight. You can install it in any direction.
- ■If you use a power supply in a dusty environment, it can give a cause for a failure. Please consider taking such countermeasures as installing an air filter near the suction area of the system to prevent a failure.
- ■In PBA300F, PBA1500F and PBA1500T, ventilation holes are located on the mounting side. If you would like to install the unit by using that side, please contact us for details.

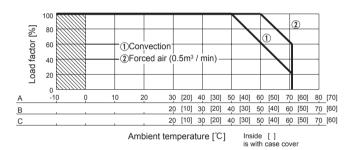
Derating

PBA10F, PBA15F, PBW15F, PBA30F, PBW30F
 PBA1500F Input voltage Derating Curve



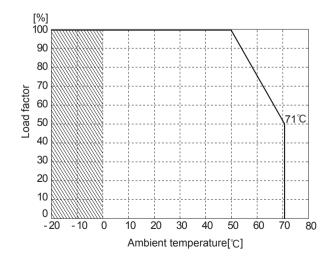


●PBA10F, PBA15F, PBW15F, PBA30F, PBW30F, PBA50F, PBW50F, PBA75F, PBA100F, PBA150F Ambient temperature derating curve



- ■In the hatched area, the specification of Ripple, Ripple Noise is different from other area.
- ■The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.
- ■Make sure the temperature at point A is less than the temperatures shown in Instruction Manual 4.

●PBA300F, PBA600F, PBA1000F, PBA1500F, PBA1500T Ambient temperature derating curve



- ■In the hatched area, the specification of Ripple, Ripple Noise is different from other area.
- ■Derating curve depending on an ambient temperature (temperature of air sucked in for a cooling purpose) is shown above.

PBA·PBW-series



Instruction Manual

◆ It is neccessary to read the "Instruction Manual" and "Before using our product" before you use our product.

Instruction Manual https://www.cosel.co.jp/redirect/catalog/en/PBA/
Instruction Manual https://www.cosel.co.jp/redirect/catalog/en/PBW/
Before using our product https://en.cosel.co.jp/technical/caution/index.html







Basic Characteristics Data

Model	Circuit method	Switching	Input	Rated	Inrush current	PCB/F	attern		Series/Parallel operation availabilit	
Model	Circuit method	frequency [kHz]	current [A]	input fuse	protection circuit	Material	Single sided	Double sided	Series operation	Parallel operation
PBA10F	Flyback converter	100	0.3	250V 2.5A	LF	CEM-3	Yes		Yes	*1
PBA15F	Flyback converter	100	0.4	250V 2.5A	Thermistor	CEM-3	Yes		Yes	*1
PBA30F	Flyback converter	100	0.7	250V 3.15A	Thermistor	CEM-3	Yes		Yes	*1
DDAFOE	Active filter	60 - 550	0.7	050)/ 04	Theymieter	CEM 2	Vaa		Vaa	.0.4
PBA50F	Forward converter	130	0.7	250V 2A	Thermistor	CEM-3	Yes		Yes	*1
DD 4.755	Active filter	60 - 550	4.0	4.0	TI	0514.0	V			
PBA75F	Forward converter	120	1.0	0501/ 0.454	Thermistor	CEM-3	Yes		Yes	*1
DDA400E	Active filter	60 - 550	4.0	250V 3.15A	TI	0514.0	.,		.,	
PBA100F	Forward converter	120	1.3 Th	Thermistor	CEM-3	Yes		Yes	*1	
DD 4 4 5 0 5	Active filter	60 - 550	2.0	250V 4A	Thermistor	CEM-3	Yes		Yes	
PBA150F Fc	Forward converter	120								*1
DD 4000E	Active filter	230		250V 10A	SCR	FR-4		.,	.,	
PBA300F	Forward converter	330	4.1					Yes	Yes	Yes
DDAGGG	Active filter	130	0.0		SCR	FR-4		V	Vas	
PBA600F	Forward converter	330	8.2	250V 15A				Yes	Yes	Yes
DDA4000E	Active filter	130	40						.,	\/
PBA1000F	Forward converter	280	13	0501/ 004	SCR	FR-4		Yes	Yes	Yes
DDA45005	Active filter	130	40	250V 30A	000	ED 4		V	V	
PBA1500F	Forward converter	200	19		SCR	FR-4		Yes	Yes	Yes
DDA4500T	Active filter	130	_	0501/ 404	000	ED 4		.,	.,	.,
PBA1500T	Forward converter	200	6	250V 16A	SCR	FR-4		Yes	Yes	Yes
PBW15F	Flyback converter	100	0.4	250V 2.5A	Thermistor	CEM-3	Yes		Yes	*1
PBW30F	Flyback converter	100	0.7	250V 3.15A	Thermistor	CEM-3	Yes		Yes	*1
DD14/505	Active filter	60 - 550		050)/ 6:	_, .,	0514.0			.,	
PBW50F	Forward converter	130	0.7	250V 2A	Thermistor	CEM-3	Yes			*1

^{*1} Refer to Series/Parallel Operation of Instruction Manual.

^{*} The value of input current is at ACIN 100V and rated load, ACIN 200V 3 ϕ and rated load in PBA1500T.