











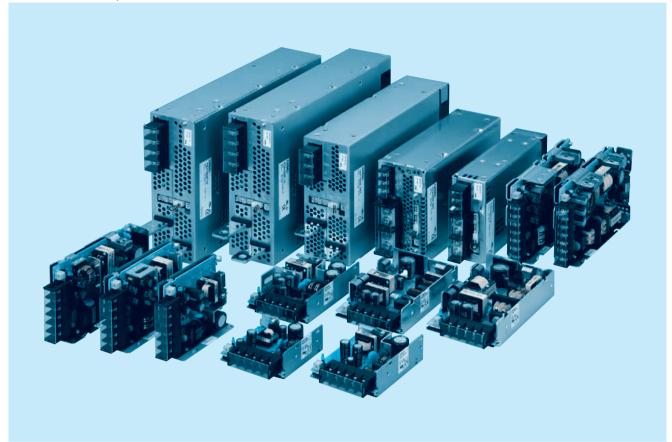








PBA, PBW-series



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

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

Ordering information

PBA10F

A 10 F -

c¶°us ≜ C€ 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

- 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)
- N1:with DIN rail and Cover V:Output voltage setting potentiometer external-

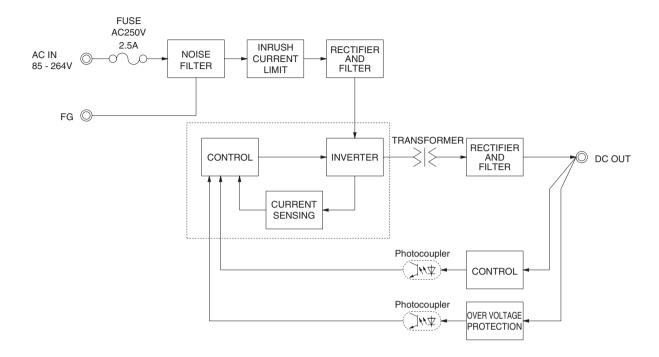
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

MODEL	PBA10F-5	PBA10F-12	PBA10F-24
MAX OUTPUT WATTAGE[W]	10	10.8	12
DC OUTPUT	5V 2Δ	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)					
	OUDDENITIAL	ACIN 100V	0.30typ (lo=100%)							
	CURRENT[A]	ACIN 200V	0.20typ (lo=100%)							
	FREQUENCY[Hz]		50/60 (47 - 440) or DC							
INPUT		ACIN 100V	74typ	76typ	77typ					
	EFFICIENCY[%]	ACIN 200V		76typ	77typ					
		ACIN 100V	15typ (lo=100%)							
	INRUSH CURRENT[A]	ACIN 200V	2.71							
	LEAKAGE CURREN	T[mA]	0.15/0.30max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1, 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					
	DIDDI Elm/m m³	0 to +50°C *1	80max	120max	120max					
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	160max	160max					
	DIDDLE NOICEIV1	0 to +50°C *1	120max	150max	150max					
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	180max	180max					
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	240max					
	TEMPERATURE REGULATION[MV]	-10 to +50℃	60max	150max	290max					
	DRIFT[mV]	*2	20max	48max	96max					
	START-UP TIME[ms]		200typ(ACIN 100V, Io=100%) *Start-up time	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	T RANGE[V]	4.50 - 5.50	10.0 - 13.2	19.2 - 27.0					
	OUTPUT VOLTAGE SET	TING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96					
	OVERCURRENT PROT	ECTION	Works over 105% of rated current and	recovers automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	5.75 - 7.00	15.0 - 18.0	30.0 - 37.0					
OTHERS	OPERATING INDICA	TION	LED (Green)							
	REMOTE ON/OFF		None							
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 1	0mA, DC500V 50M Ω min (At Room Te	mperature)					
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 1	0mA, DC500V 50M Ω min (At Room Te	mperature)					
	OUTPUT-FG			mA, DC500V 50M Ω min (At Room Tem						
	OPERATING TEMP.,HUMID.AND	ALTITUDE		- 90%RH (Non condensing) 3,000m (10	0,000feet) max					
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non cond							
LIVINONWENT	VIBRATION		10 - 55Hz, 19.6m/s2 (2G), 3minutes p	eriod, 60minutes each along X, Y and 2	Z axis					
	IMPACT		196.1m/s ² (20G), 11ms, once each X,							
SAFETY AND	AGENCY APPROVALS (At only			JL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN						
NOISE	CONDUCTED NOISE			CCI-B, CISPR22-B, EN55011-B, EN550	22-B					
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with IEC61000-3-2 (Not buil							
OTHERS	CASE SIZE/WEIGHT		31 × 78 × 68mm [1.22 × 3.07 × 2.68 inc	hes] (without terminal block) (WXHXD) / 150g max (with cover : 180g max)					
OTTLENS	COOLING METHOD		Convection							

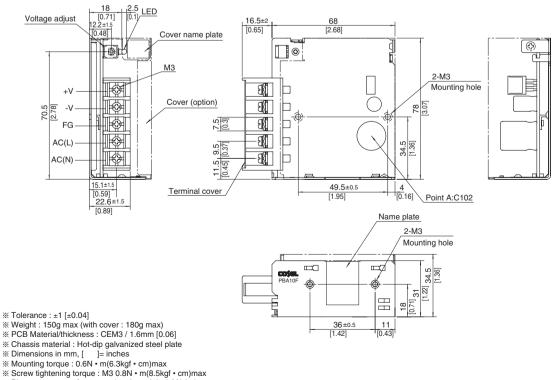
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
- *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.



Ordering information

PBA15F

A 15 F -

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

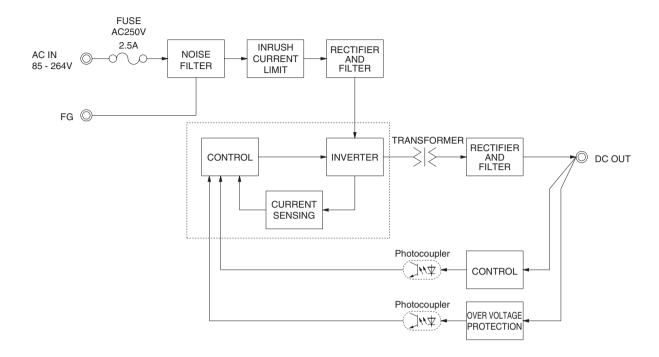
V:Output voltage setting potentiometer external-

*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

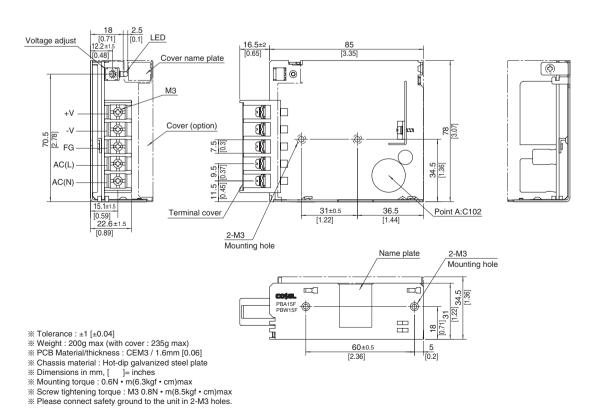
	MODEL		PBA15F-3R3	PBA15F-5	PBA15F-9	PBA15F-12	PBA15F-15	PBA15F-24	PBA15F-48			
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to the	ne instruction ma	nual 1.1 Input vo	ltage *3)			
	CUDDENTIAL	ACIN 100V	0.30typ (lo=100%)	0.4typ (Io=100%	6)							
	CURRENT[A]	ACIN 200V	0.15typ (lo=100%)	0.2typ (lo=100%	6)							
	FREQUENCY[Hz]		50/60 (47 - 440)	or DC								
INPUT	EFFICIENCY[0/1	ACIN 100V	68typ	74typ	75typ	75typ	77typ	75typ	75typ			
	EFFICIENCY[%]	ACIN 200V	68typ	75typ	77typ	78typ	80typ	78typ	78typ			
	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]	0.15/0.30max (A	0.15/0.30max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1,DENAN)								
	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			
	nirree[iiivp-p]	-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	HIFFEE 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			
С	TEMPERATORE 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	lo=100%) *Start-u	up time is 700ms typ	for less than 1minu	ite of applying input	again from turning of	off the input voltage			
	HOLD-UP TIME[ms]		20typ (ACIN 10	OV, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT	T 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	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	48.00 - 49.92			
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	nt and recovers a	utomatically						
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				nt = 10mA, DC50							
ISOLATION	INPUT-FG				nt = 10mA, DC50		· · · · · · · · · · · · · · · · · · ·					
	OUTPUT-FG				= 25mA, DC500							
	OPERATING TEMP.,HUMID.AND	ALTITUDE	- ,), 20 - 90%RH (N	U,		feet) max				
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE			condensing) 9,00							
LITTINICITINILITY	VIBRATION		10 - 55Hz, 19.6	m/s² (2G), 3min	utes period, 60m	inutes each alon	g X, Y and Z axi	S				
	IMPACT			96.1m/s ² (20G), 11ms, once each X, Y and Z axis								
SAFETY AND	AGENCY APPROVALS (At only		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 ATTENU	IATOR			ot built-in to active							
OTHERS	CASE SIZE/WEIGHT		31 x 78 x 85mm [1.22 x 3.07 x 3.35 inches] (without terminal block) (Wx HxD) / 200g max (with cover : 235g max)									
UTILLIS	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

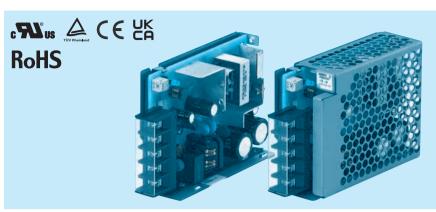
** External size of option T,J1,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



Ordering information

PBA30F

A 30



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.

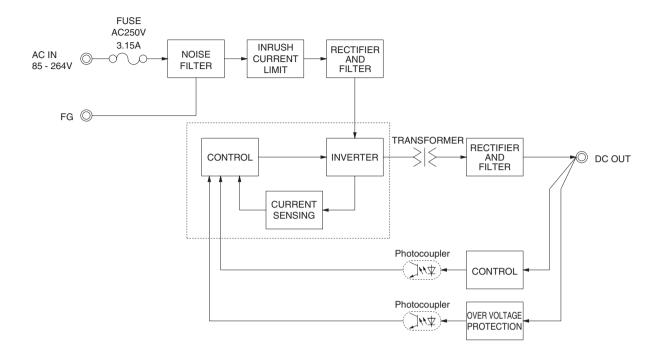
MODEL	PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48
MAX OUTPUT WATTAGE[W]	19.8	30	30.6	30	30	31.2	31.2
DC OUTPUT	3.3V 6A	5V 6A	9V 3.4A	12V 2.5A	15V 2A	24V 1.3A	48V 0.65A

I	MODEL		PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48		
١	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to t	he instruction ma	anual 1.1 Input vo	oltage *3)		
	OUDDENTIAL	ACIN 100V	0.50typ (lo=100%)	0.70typ (lo=100	%)						
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.40typ (lo=100	1%)						
F	FREQUENCY[Hz]		50/60 (47 - 440)	or DC							
NPUT _	EFFICIENCY (CALL	ACIN 100V	68typ	74typ	75typ	76typ	78typ	78typ	79typ		
-	EFFICIENCY[%]	ACIN 200V	69typ	77typ	77typ	78typ	81typ	81typ	81typ		
	NEUGU GUEDENTIAL	ACIN 100V	15typ (lo=100%) (At cold start)				•			
"	NRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At cold start)							
L	LEAKAGE CURREN	T[mA]	0.30/0.65max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1,DENAN)								
١	VOLTAGE[V]		3.3	5	9	12	15	24	48		
C	CURRENT[A]		6	6	3.4	2.5	2	1.3	0.65		
L	LINE REGULATION[I	mV] *6	20max	20max	36max	48max	60max	96max	192max		
L	LOAD REGULATION	[mV] *6	40max	40max	100max	100max	120max	150max	240max		
	DIDDI ElmVn ni	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max		
r	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max		
	DIDDLE NOIGE	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max		
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max		
	TEMPERATURE REQUILATIONS	0 to +50℃	50max	50max	90max	120max	150max	240max	480max		
1	TEMPERATURE REGULATION[mV]	-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	lo=100%) *Start-u	up time is 700ms typ	p for less than 1min	ute of applying input	again from turning	off the input volta		
F	HOLD-UP TIME[ms]		20typ (ACIN 10	OV, Io=100%)							
C	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		
C	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	48.00 - 49.9		
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	nt and recovers	automatically					
ROTECTION	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		
IRCUIT AND THERS	OPERATING INDICA	TION	LED (Green)								
	REMOTE ON/OFF		None								
I	NPUT-OUTPUT		AC3,000V 1min	ute, Cutoff currer	nt = 10mA, DC50	$00V~50M\Omega$ min (A	At Room Tempera	ature)			
SOLATION I	NPUT-FG		AC2,000V 1min	ute, Cutoff currer	nt = 10mA, DC50	$00V$ $50M\Omega$ min (A	At Room Tempera	ature)			
C	OUTPUT-FG		AC500V 1minut	e, Cutoff current	= 25mA, DC500	V 50M Ω min (At	Room Temperati	ure)			
C	PERATING TEMP.,HUMID.AND	ALTITUDE				Non condensing)		feet) max			
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20) - 90%RH (Non	condensing) 9,0	00m (30,000feet)) max				
VINONIVIENT	VIBRATION		10 - 55Hz, 19.6	55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
I	MPACT		196.1m/s ² (20G	96.1m/s² (20G), 11ms, once each X, Y and Z axis							
AFETY AND	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-U	JL(CSA60950-1),	EN62368-1 Cor	nplies with DEN-	AN				
OISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
EGULATIONS	HARMONIC ATTENU	ATOR	Complies with IEC61000-3-2 (Not built-in to active filter *4) *7								
THERS	CASE SIZE/WEIGHT		.31 x 78 x 103mm [1.22 x 3.07 x 4.06 inches] (without terminal block) (W x H x D) / 270g max (with cover : 310g max								
THERS (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.

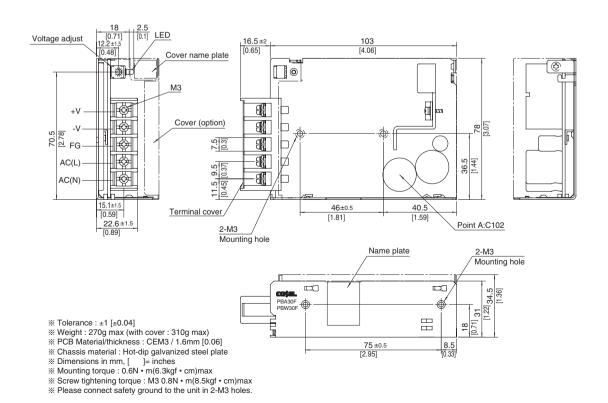
 A sound may occur from power supply at peak loading.





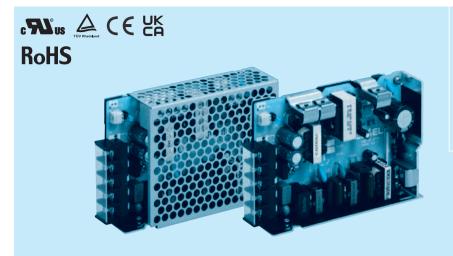
External view

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



PBA50F

50



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.

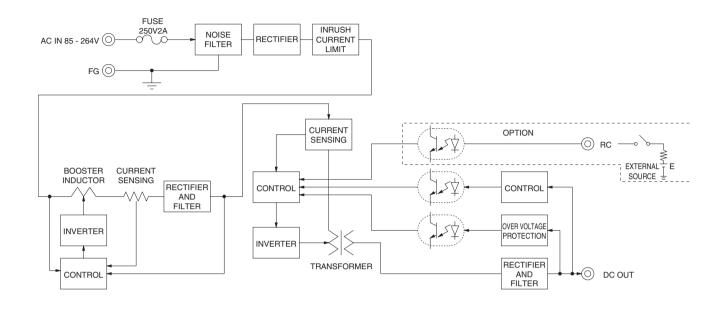
MODEL	PBA50F-3R3	PBA50F-5	PBA50F-9	PBA50F-12	PBA50F-15	PBA50F-24	PBA50F-36	PBA50F-48
MAX OUTPUT WATTAGE[W]	33	50	50.4	51.6	52.5	52.8	50.4	52.8
DC OUTPUT	3.3V 10A	5V 10A	9V 5.6A	12V 4.3A	15V 3.5A	24V 2.2A	36V 1.4A	48V 1.1A

	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 - 370	(AC50 or DC70	Please refer to	the instruction n	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[0/1	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								
	INDUCU CUDDENTIAL	ACIN 100V	15typ (lo=100%	(At cold start)								
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At cold start)									
	LEAKAGE CURRENT[r	nA]	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]		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	nV]	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		
OUTPUT	RIPPLE NOISE[IIIVP-P]	-10 - 0℃ *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, lo=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]	3.30 - 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	ECTION	Works over 105	% of rated curre	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 pov								
	INPUT-OUTPUT · RC	*3				500V 50MΩmin						
ISOLATION	INPUT-FG		AC2,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Tempe	erature)				
	OUTPUT · RC-FG	*3				00V 50MΩmin (
	OPERATING TEMP.,HUMID.AND	ALTITUDE				(Non condensing		00feet) max				
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE				000m (30,000fee						
LIVINOIVILIVI	VIBRATION					minutes each ald	ong X, Y and Z a	axis				
	IMPACT				ach X, Y and Z							
SAFETY AND	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-l	JL(CSA60950-1)), EN62368-1 Co	mplies with DEN	I-AN					
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
REGULATIONS	HARMONIC ATTENUAT	ГOR	Complies with IEC61000-3-2 *6									
OTHERS	CASE SIZE/WEIGHT		31 x 82 x 120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (Wx Hx D) / 280g max (with cover: 325g max)					ax)				
OTHERS	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.

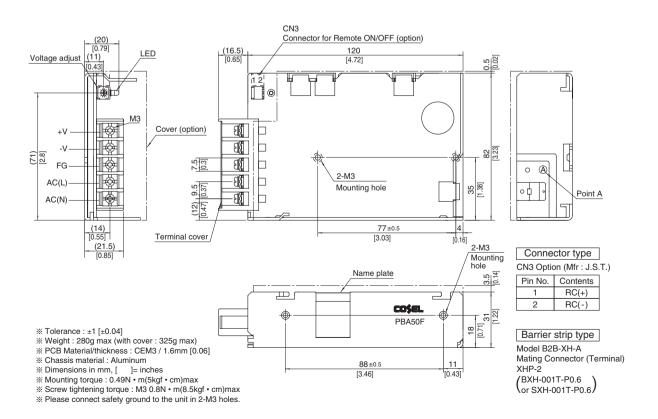
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





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.



PRA75E-3R3 PRA75E-5 PRA75E-9 PRA75E-12 PRA75E-15 PRA75E-24 PRA75E-36 PRA75E-48

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

SPECIFICATIONS

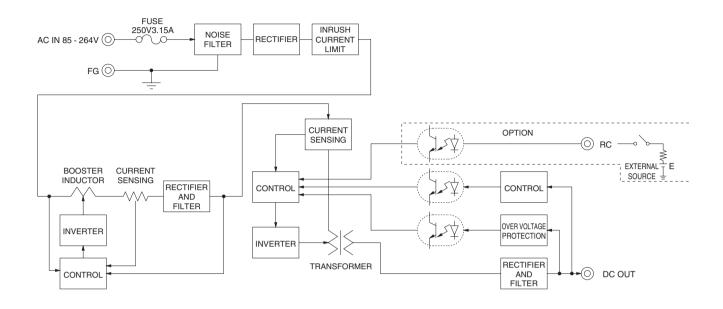
MODEL

	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 - 370	(AC50 or DC70	Please refer to	the instruction r	manual 1.1 Input	voltage *4)			
	CURRENT[A]	ACIN 100V	0.7typ	1.0typ								
	CURRENT[A]	ACIN 200V	0.4typ	0.5typ								
	FREQUENCY[Hz]		50/60 (47 - 63)									
	EFFICIENCY[%]	ACIN 100V	77typ	81typ	80typ	81typ	82typ	83typ	84typ	84typ		
INPUT	EFFICIENCY[%]	ACIN 200V	78typ	83typ	82typ	83typ	84typ	85typ	86typ	86typ		
	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)								
	INNUSTI CURRENT[A]	ACIN 200V	30typ (lo=100%	30typ (Io=100%) (At cold start)								
	LEAKAGE CURRENT[n	nA]	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]		15	15	8.4	6.3	5	3.2	2.1	1.6		
	LINE REGULATION[mV		20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	V]	40max	40max	100max	100max	120max	150max	240max	240max		
	RIPPLE[mVp-p]	0 to +50°C * 1	80max	80max	120max	120max	120max	120max	150max	150max		
	HIFFEE[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		
OUTPUT	TEMPERATURE REGULATION[mV] DRIFT[mV]	-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max		
		0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max		
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max		
		*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			% of rated curre	ent and recovers	automatically						
PROTECTION CIRCUIT AND	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		
OTHERS	OPERATING INDICATION	ON	LED (Green)									
	REMOTE ON/OFF			ired external pov								
	INPUT-OUTPUT · RC	*3			ent = 10mA, DC		<u>, </u>					
ISOLATION	INPUT-FG				ent = 10mA, DC							
	OUTPUT · RC-FG	*3			t = 100mA, DC5							
	OPERATING TEMP.,HUMID.AND				"), 20 - 90%RH			00feet) max				
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE			n condensing) 9,							
	VIBRATION				nutes period, 60		ong X, Y and Z a	axis				
	IMPACT				ach X, Y and Z							
SALLII AND		AC input)), EN62368-1 Co							
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
HEGULATIONS	TIATIMONIO ATTENDAT											
OTHERS	CASE SIZE/WEIGHT			m [1.26 × 3.23 ×	5.31 inches] (wit	nout terminal blo	ock) (WXHXD)	350g max (wit	n cover : 400g 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.

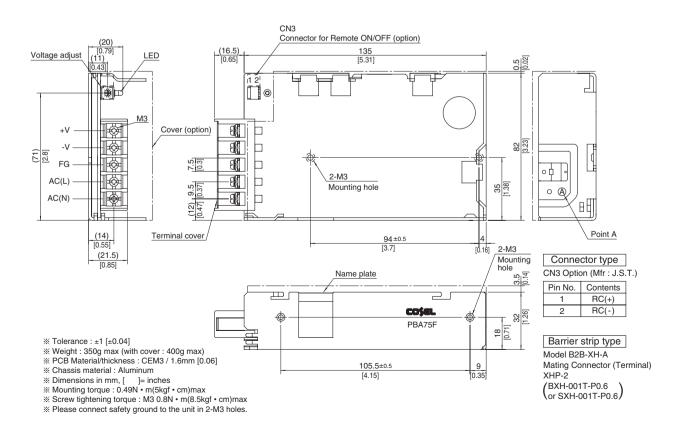
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

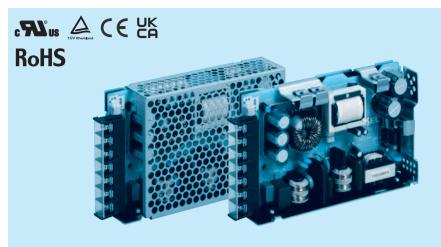
* External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



Ordering information

PBA100F

100



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.

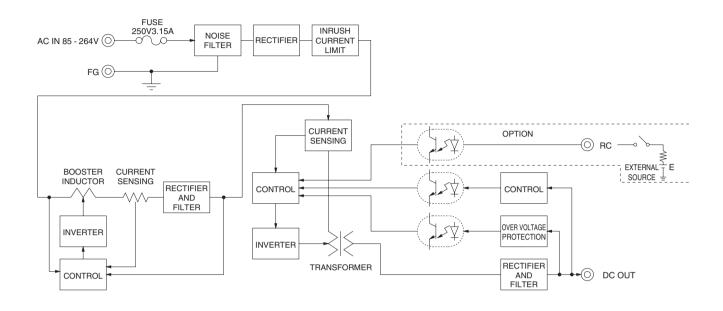
MODEL	PBA100F-3R3	PBA100F-5	PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48
MAX OUTPUT WATTAGE[W]	66	100	94.5	102	105	108	100.8	100.8
DC OUTPUT	3.3V 20A	5V 20A	9V 10.5A	12V 8.5A	15V 7A	24V 4.5A	36V 2.8A	48V 2.1A

	MODEL		PBA100F-3R3	PBA100F-5	PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-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)			
	OUDDENTIAL	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		
INPUT	EFFICIENCY[%]	ACIN 200V	79typ	84typ	82typ	83typ	86typ	86typ	86typ	86typ		
	DOWED FACTOR/L- 4000()	ACIN 100V	0.98typ	0.99typ	•							
	POWER FACTOR(Io=100%)	ACIN 200V		0.93typ								
	INDUCU CUDDENTIAL	ACIN 100V	20typ (lo=100%	(At cold start)								
		ACIN 200V	40typ (lo=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.4/0.75max (A	0.4/0.75max (ACIN 100V/240V 60Hz, lo=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\	/]	20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	ıV]	40max	40max	100max	100max	120max	150max	240max	240max		
	DIDDI Elm\/n n1	0 to +50°C * 1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max		
	DIDDLE MOIOEL W	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max		
OUTPUT		-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max		
	-1	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max		
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max		
С	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 10	0V, lo=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]	3.20 - 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	% of rated curre	ent and recovers	automatically						
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		
CIRCUIT AND	OPERATING INDICATION	NC	LED (Green)									
OTHERS	REMOTE SENSING		Optional (Only	-3R3, -5 Option	-K)							
	REMOTE ON/OFF		Optional (Requ	ired external pov	wer source)							
	INPUT-OUTPUT · RC	*3	AC3,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Tempe	erature)				
ISOLATION	INPUT-FG		AC2,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Tempe	erature)				
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	00V 50MΩmin	At Room Tempe	rature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 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°C, 2	0 - 90%RH (Nor	n condensing) 9,	000m (30,000fee	et) max					
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6	6m/s ² (2G), 3mi	nutes period, 60	minutes each ald	ong X, Y and Z a	axis				
	IMPACT		196.1m/s ² (200	a), 11ms, once e	each X, Y and Z	axis						
SAFETY AND	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-I	JL(CSA60950-1), EN62368-1 Co	mplies with DEI	N-AN					
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
REGULATIONS	HARMONIC ATTENUAT			Complies with IEC61000-3-2 *6								
OTHERS	CASE SIZE/WEIGHT		32×93×147m	m [1.26 × 3.66 ×	5.79 inches] (wit	hout terminal blo	ock) (W×H×D)	440g max (wit	h cover : 500g m	ax)		
OTHERS	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.

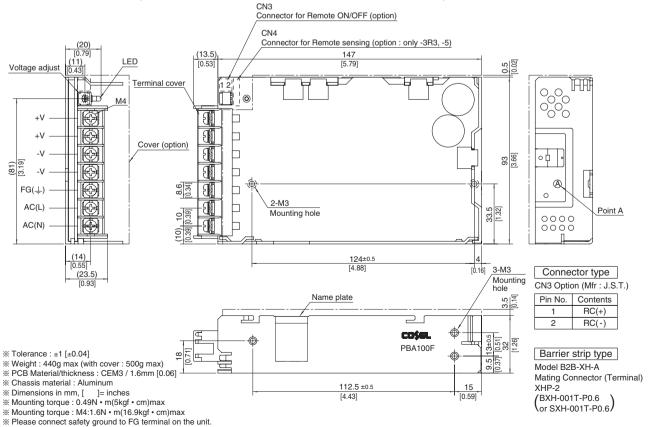
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

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



PBA150F

150

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.

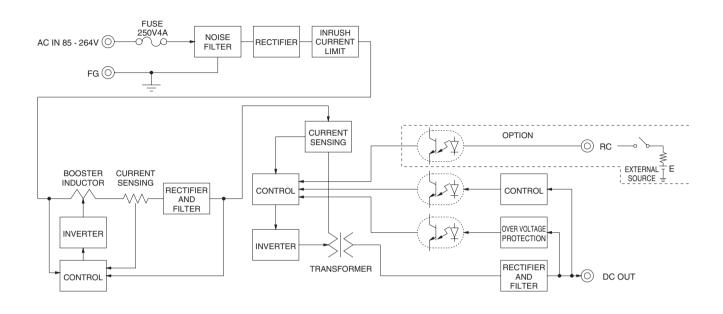
MODEL	PBA150F-3R3	PBA150F-5	PBA150F-9	PBA150F-12	PBA150F-15	PBA150F-24	PBA150F-36	PBA150F-48
MAX OUTPUT WATTAGE[W]	99	150	150.3	156	150	156	154.8	158.4
DC OUTPUT	3.3V 30A	5V 30A	9V 16.7A	12V 13A	15V 10A	24V 6.5A	36V 4.3A	48V 3.3A

	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 DC70	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)							
	EEEICIENCVI9/1	ACIN 100V	80typ	83typ	82typ	83typ	84typ	85typ	85typ	85typ
INPUT	EFFICIENCY[%]	ACIN 200V	82typ	86typ	85typ	86typ	87typ	88typ	88typ	88typ
	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	20typ (lo=100%) (At cold start)						
	INNUSH 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	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
	MIFFEE[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
OUTPUT	MIFFEE NOISE[IIIVP-P]	-10 - 0℃ *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				ent and recovers					
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 OTHERS	OPERATING INDICATION	ON	LED (Green)							
OTHERS	REMOTE SENSING			-3R3, -5 Option						
	REMOTE ON/OFF			ired 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		00teet) max		
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE				000m (30,000fee				
	VIBRATION					minutes each ald	ong X, Y and Z a	axis		
	IMPACT		196.1m/s ² (20G), 11ms, once each X, Y and Z axis							
	AGENCY APPROVALS (At only	AC input)								
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B							
HEGULATIONS	HARMONIC ATTENUAT	· ·								
OTHERS	CASE SIZE/WEIGHT			m [1.34 × 3.66 ×	6.61 inches] (wit	nout terminal blo	ck) (WXHXD)	560g max (wit	n 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.

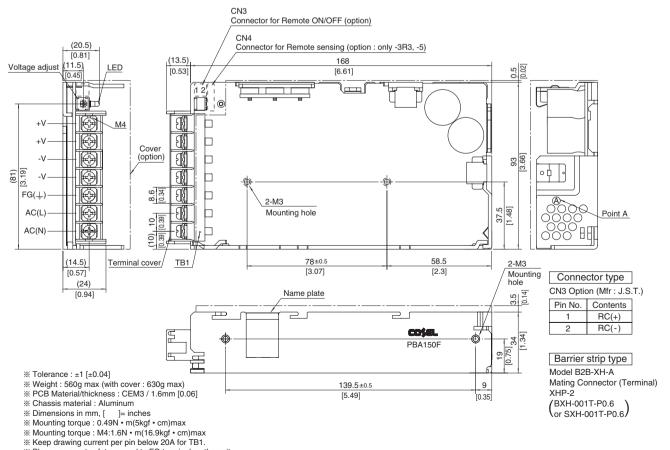




External view

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

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.



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.

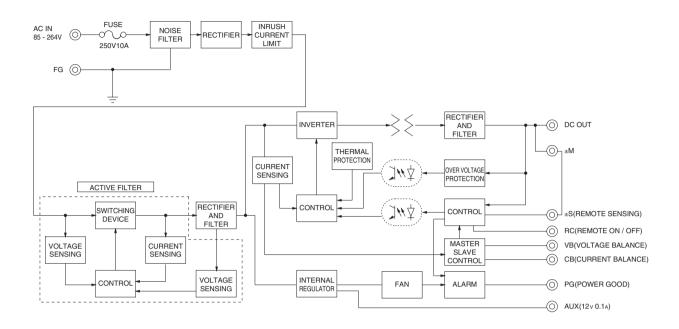
MODEL		PBA300F-3R3	PBA300F-5	PBA300F-7R5	PBA300F-12	PBA300F-15	PBA300F-24	PBA300F-36	PBA300F-48
MAX OUTPUT WATTAGE[W]		198	300	300	324	330	336	324	336
ACIN 10		3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14A	36V 9A	48V 7A
DC OUTPUT	ACIN 200V *3	3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14(16.5)A	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	0 (AC50 or DC70	Please refer to	the instruction r	nanual 7. option	*4)	
	CURRENT[A]	ACIN 100V	3typ	4.1typ						
	CONNENTIAL	ACIN 200V	1.6typ	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)%)						
	POWER FACTOR		0.95typ (Io=100							
	INRUSH CURRENT[A]	ACIN 100V			rush current /Se					
	INNOSTI CONNENT[A]	ACIN 200V	40/40typ (lo=10	00%) (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%	According to II	EC62368-1,DEN	AN)		
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	CURRENT[A]	ACIN 100V	60	60	40	27	22	14	9	7
	CURRENT[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
	RIPPLE[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
OUTFUT	MIPPLE NOISE[IIIVP-P]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max
TE	TEMPERATURE REGULATION[mV]	0 to +50°C	40max	50max	75max	120max	150max	240max	360max	480max
	DRIFT[mV]	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max
		*2	12max	20max	30max	48max	60max	96max	144max	192max
	START-UP TIME[ms]					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				ent or 101% of p					
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
CIRCUIT AND OTHERS	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				j"), 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 *6							
TEGULATIONS	HARMONIC ATTENUAT	TOR						/···		
OTHERS	CASE SIZE/WEIGHT				< 6.69 inches] (w	thout terminal b	ock and screw)	(W×H×D) /1.0	kg max	
	COOLING METHOD		Forced cooling	(internal fan)						

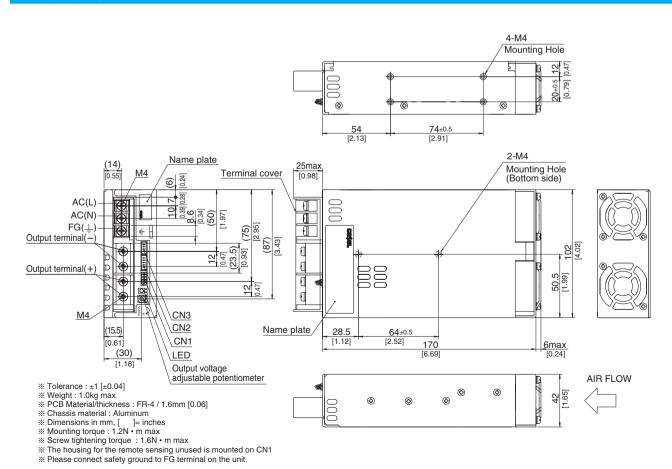
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at $25\,^{\circ}\!\text{C}$. *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- $\divideontimes 4$ Derating is required.Consult us for details.

- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- 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

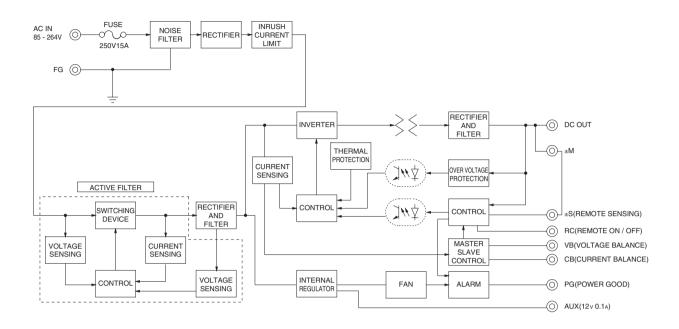
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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 CUITDUT		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

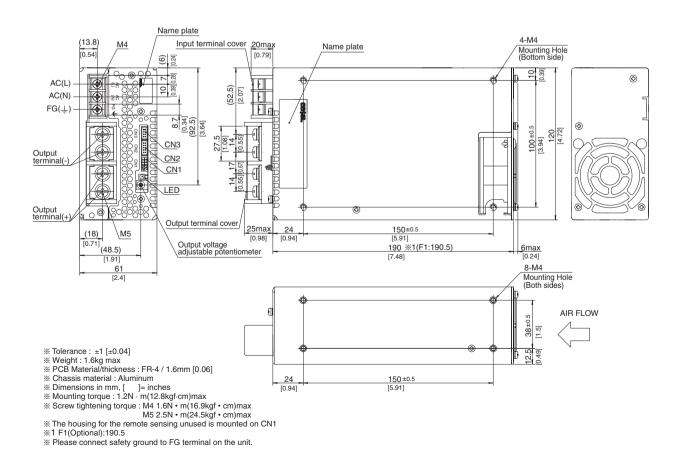
	MODEL		PBA600F-3R3	PBA600F-5	PBA600F-7R5	PBA600F-12	PBA600F-15	PBA600F-24	PBA600F-36	PBA600F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 350	0 (AC50 or DC70	Please refer to	the instruction r	nanual 7. option	* 5)	
	CURRENT[A]	ACIN 100V	5.8typ	8.2typ						
	CONNENT[A]	ACIN 200V		4.1typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EFFICIENCY[%]	ACIN 100V		75typ	76typ	79typ	79typ	81typ	82typ	81typ
INPUT	LITIOILING I[/6]	ACIN 200V		77typ	79typ	82typ	82typ	84typ	84typ	83typ
	POWER FACTOR		0.98typ (lo=100							
	FOWERTACION	ACIN 200V	0.95typ (lo=100	1%)						
	INRUSH CURRENT[A]		20/40typ (lo=10							
		ACIN 200V			rush current /Se				tart)	
	LEAKAGE CURRENT[i	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	80	53	43	27	18	13
	CONNENT[A]	ACIN 200V *3	120	120	80	53	43	27(31)	18	13
	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℃ *1	140max	140max	160max	160max	160max	160max	160max	400max
ОИТРИТ	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
		-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max
	DRIFT[mV]	*2	12max	20max	30max	48max	60max	96max	144max	192max
	START-UP TIME[ms]		400typ(ACIN 100	/200V, lo=100%)	*Start-up time is	500ms typ for less	than 1minute of	applying input aga	in from turning off	the input voltage.
	HOLD-UP TIME[ms]			0/200V, lo=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	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		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
	OPERATING INDICATION	ON	LED (Green)							
OTHERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided							
	INPUT-OUTPUT · RC				ent = 10mA, DC		·			
ISOLATION	INPUT-FG				ent = 10mA, DC					
IOOLATION	OUTPUT · RC · AUX-F	G			t = 100mA, DC5					
	OUTPUT-RC · AUX				t = 100mA, DC5					
	OPERATING TEMP.HUMID.AND ALTITUDE -20 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max									
ENVIRONMENT	STORAGE TEMP.;HUMID.AND	ALTITUDE			n condensing) 9,					
	VIBRATION				nutes period, 60		ong X, Y and Z a	axis		
	IMPACT				each X, Y and Z					
OALLII 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	ARMONIC ATTENUATOR Complies with IEC61000-3-2 *7 ASE SIZE/WEIGHT 120×61×190mm [4.72×2.4×7.48 inches] (without terminal block and screw) (W×H×D) /1.6kg max								
OTHERS	CASE SIZE/WEIGHT		120×61×190n	nm [4.72×2.4×	7.48 inches] (wit	hout terminal blo	ck and screw) (\	N×H×D) /1.6kç	g max	
UIILIIU	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 . *3 () 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





External view



RoHS

c**¶**°us ≜ CE UK

Ordering information

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



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
ACI		3.3V 200A	5V 200A	7.5V 134A	12V 88A	15V 70A	24V 44A	36V 29A	48V 22A
DC OUTPUT	ACIN 200V *3	3.3V 200A	5V 200A	7.5V 134A	12V 88A	15V 70A	24V 44(51)A	36V 29A	48V 22A

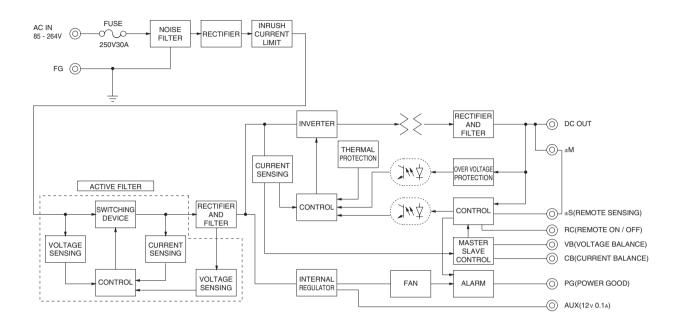
SPECIFICATIONS

POWER FACTOR ACM 190V 0.98tpy (10=100%)		MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48		
CURNENI A A A A A A A A A		VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 350	(AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)			
INPUT FREQUENCY 1+2 S006 (47 - 65) 79y 80typ 82typ 82typ 84typ 84typ 84typ 86typ 86ty		CUDDENTIAL	ACIN 100V	9typ	13typ								
		CONNENT[A]	ACIN 200V	5typ	7typ								
NPUT Complete Co		FREQUENCY[Hz]		50/60 (47 - 63)									
NPUT ACM 2007 75typ 81typ 83typ 84typ 84typ 85typ 85		EEEICIENCVI9/1	ACIN 100V	74typ	79typ	80typ	82typ	82typ	84typ	84typ	84typ		
POWER FACTOR ROW 20V 0.95typ (io=100%) Firmary inrush current / Secondary inrush current) (More than 10 sec. to re-start)	INPUT	EFFICIENCY[%]	ACIN 200V	76typ	81typ	83typ	84typ	84typ	86typ	86typ	86typ		
A Control Co		DOWED FACTOR	ACIN 100V	0.98typ (lo=100	1%)								
NRIUSH CORRENT[ma] ACIN 100V 401/40lyp (io=100%) (Primary inrush current) (Secondary inrush current) (More than 10 sec. to re-start)		POWER FACTOR	ACIN 200V	0.95typ (lo=100	1%)								
LEAKAGE CURRENT[mA]		INDUOLI QUIDDENITAL	ACIN 100V	20/40typ (Io=10	0%) (Primary in	rush current /Se	condary inrush c	urrent) (More the	an 10 sec. to re-	start)			
VOLTAGE[V] 3.3 5 7.5 12 15 24 36 48		INRUSH CURRENT[A]	ACIN 200V	40/40typ (Io=10	00%) (Primary in	rush current /Se	condary inrush c	urrent) (More the	an 10 sec. to re-	start)			
CURRENTÍA ACIN 100V 200 200 134 88 70 444 29 22		LEAKAGE CURRENT[r	nA]	0.5/1.0max (AC	IN 100V/240V 6	0Hz, lo=100%, A	According to IEC	62368-1, DENAI	N)				
CURRENTIA ADNA2W = 200 200 134 88 70 44(51) 29 22		VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48		
CURRENTIA ADNAWN s 200 200 134 88 70 44(51) 29 22			ACIN 100V	200	200	134	88	70	44	29	22		
OUTPUT ADDRESS ADDR		CURRENT[A]			200	134	88	70	44(51)	29	22		
OUTPUT ADDRESS ADDR		LINE REGULATION[m\	/1	20max	20max	36max	48max	60max	96max	144max	192max		
Name		LOAD REGULATION[m	٧٦	40max	40max	60max		120max	150max	150max	300max		
140max 150max		-		80max	80max	120max	120max	120max	120max		150max		
OUTPUT RIPPLE NOISE[mVp-p] 10 + 50 cm 120 max 120 max 120 max 150 max 150 max 150 max 150 max 150 max 200 max		RIPPLE[mVp-p]	_										
HPPLE NOISE[mVp-p]													
TEMPERATURE REGULATION ml 0 16 +90° 40 max 50 max 75 max 120 max 150 max 180 max 240 max 360 max 480 max 480 max 290 max 440 max 600 max 480 max 480 max 400 max 480	OUTPUT	RIPPLE NOISE[mVp-p]	_										
International Regulation 20 9 40 50 60 60 60 60 60 60 6													
DRIFT[mV]		DRIFT[mV]											
START-UP TIME[ms]													
HOLD-UP TIME[ms] 20typ (ACIN 100/200V, Io=100%)					/200V, lo=100%)	*Start-up time is	500ms tvp for less	than 1minute of a	applving input aga	in from turning off	the input voltage.		
OUTPUT VOLTAGE ADJUSTMENT 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 SETTING[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		OUTPUT VOLTAGE ADJUSTMENT	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		
OVERVOLTAGE PROTECTION[V]		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		
CIRCUIT AND OPERATING INDICATION REMOTE SENSING REMOTE ON/OFF REMOTE SENSING REMOTE ON/OFF REMOTE SENSING REMOTE ON/OFF REMOTE SENSING REMOTE ON/OFF REMOTE SENSING REMOTE SENSING REMOTE ON/OFF REM		OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	ent or 101% of p	eak current and	recovers automa	atically				
CIRCUIT AND OTHERS OPERATING INDICATION REMOTE ON/OFF LED (Green) REMOTE SENSING REMOTE ON/OFF Provided ISOLATION ISOLATION INPUT-OUTPUT · RC AC3,000V 1minute, Cutoff current = 25mA, DC500V 50MΩmin (At Room Temperature) INPUT-FG AC2,000V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT · RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature) OUTPUT-RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Ro	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		
REMOTE ON/OFF Provided	CIRCUIT AND	OPERATING INDICATION	ON	LED (Green)			•						
INPUT-OUTPUT · RC AC3.000V 1minute, Cutoff current = 25mA, DC500V 50M Ωmin (At Room Temperature)	OTHERS	REMOTE SENSING		Provided									
INPUT-FG		REMOTE ON/OFF		Provided									
OUTPUT · RC · AUX AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature)		INPUT-OUTPUT · RC		AC3,000V 1min	ute, Cutoff curre	ent = 25mA, DC5	500V 50MΩmin	(At Room Tempe	erature)				
OUTPUT - RC - AUX	ICOL ATION	INPUT-FG		AC2,000V 1min	ute, Cutoff curre	ent = 25mA, DC5	500V 50MΩmin	(At Room Tempe	erature)				
OPERATING TEMP.HUMID.AND ALTITUDE -20 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max	ISOLATION	OUTPUT · RC · AUX-F0	G	AC500V 1minut	te, Cutoff curren	t = 100mA, DC5	00V 50MΩmin (At Room Tempe	rature)				
STORAGE TEMP.HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9.000m (30.000feet) max		OUTPUT-RC · AUX		AC500V 1minut	te, Cutoff curren	t = 100mA, DC5	00V 50MΩmin (At Room Tempe	rature)				
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 SAFETY AND NOISE REGULATIONS CONDUCTED NOISE REGULATIONS CASE SIZE/WEIGHT 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN Complies with DEN-AN Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CASE SIZE/WEIGHT 150×61×240mm [5.91×2.4×9.45 inches] (without terminal block and screw) (W×H×D) /2.2kg max		OPERATING TEMP., HUMID. AND	ALTITUDE	-20 to +71°C (F	lefer to "Derating	"), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	Ofeet) max				
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 196.1m/s² (20G), 11ms, once each X, Y and Z axis SAFETY AND NOISE REGULATIONS CONDUCTED NOISE HARMONIC ATTENUATOR COMPLIES COMPLIES with IEC61000-3-2 *7 CASE SIZE/WEIGHT 150×61×240mm [5.91×2.4×9.45 inches] (without terminal block and screw) (W×H×D) /2.2kg max	ENVIDONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 2	0 - 90%RH (Nor	condensing) 9,0	000m (30,000fee	t) max					
SAFETY AND NOISE REGULATIONS CONDUCTED NOISE COMPlies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CASE SIZE/WEIGHT 150×61×240mm [5.91×2.4×9.45 inches] (without terminal block and screw) (W×H×D) /2.2kg max	ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6	im/s2 (2G), 3mii	nutes period, 60i	minutes each ald	ng X, Y and Z a	ıxis				
NOISE REGULATIONS CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B HARMONIC ATTENUATOR Complies with IEC61000-3-2 *7 CASE SIZE/WEIGHT 150×61×240mm [5.91×2.4×9.45 inches] (without terminal block and screw) (W×H×D) /2.2kg max		IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis									
NOISE REGULATIONS CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CONDUCTED NOISE COMPLIES COMPL	SAFETY AND	AGENCY APPROVALS (At only											
CASE SIZE/WEIGHT 150 x 61 x 240 mm [5.91 x 2.4 x 9.45 inches] (without terminal block and screw) (W x H x D) /2.2kg max	NOISE	CONDUCTED NOISE											
OTHERS	REGULATIONS	HARMONIC ATTENUAT	OR	Complies with I	EC61000-3-2 *	7							
UITENS []	OTHERS	CASE SIZE/WEIGHT		150×61×240n	nm [5.91 × 2.4 ×	9.45 inches] (with	nout terminal blo	ck and screw) (V	V × H × D) /2.2kg	g max			
COOLING METHOD Forced cooling (internal fan)	OTHERS	COOLING METHOD		Forced cooling	(internal fan)								

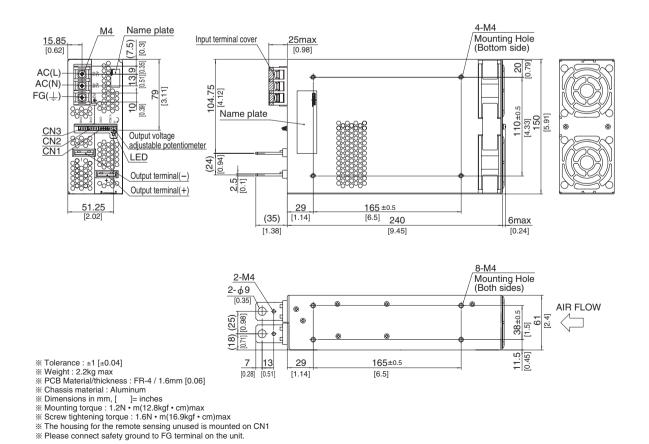
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
 - Ripple and ripple noise is measured on measuring board with capacitor of 22 $\mu\,\text{F}$ within 150mm from the output terminal.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up 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.

PBA/PBW-20 May 14, 2025 www.cosel.co.jp/en/





External view



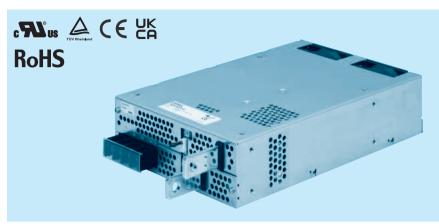
PBA1500F

A 1500

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.



Example recommended EMI/EMC filter NAC-20-472 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

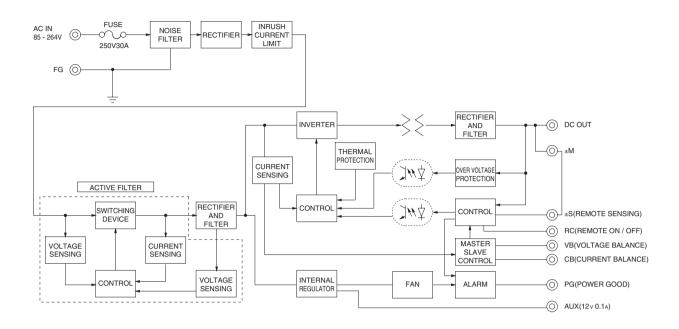
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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
DO OLITRUIT	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

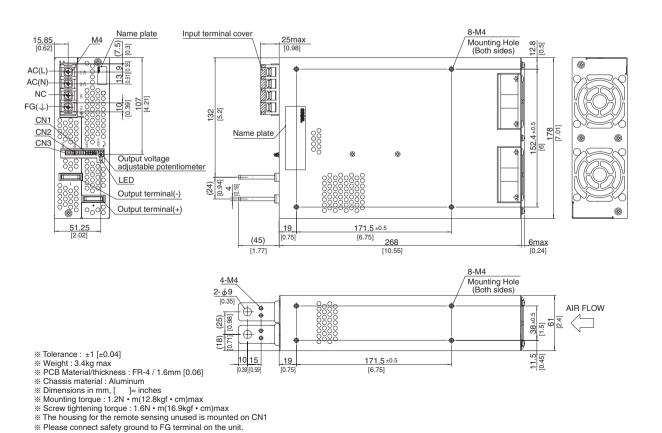
	MODEL		PBA1500F-3R3	PBA1500F-5	PBA1500F-7R5	PBA1500F-12	PBA1500F-15	PBA1500F-24	PBA1500F-36	PBA1500F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 370	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)	
	CURRENT[A]	ACIN 100V	15typ	19typ						
	CORRENT[A]	ACIN 200V	8typ	10typ						
	FREQUENCY[Hz]		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°C, 20 - 90%RH (Non condensing) 9,000m (3									
ENVIRONMENT	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 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									
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



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

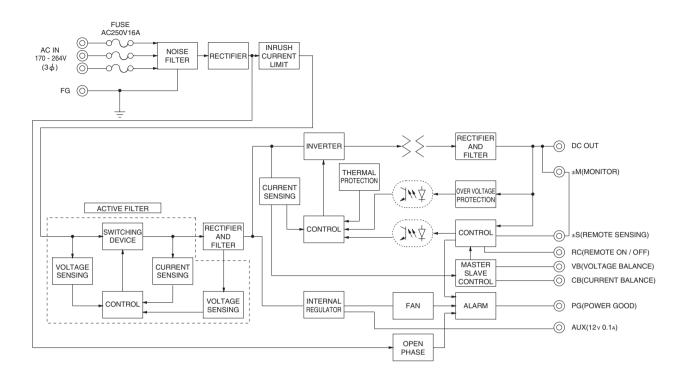
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

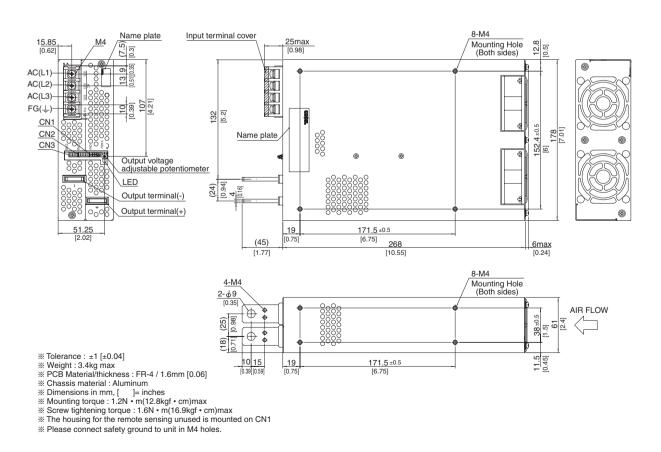
	MODEL		PBA1500T-5	PBA1500T-12	PBA1500T-24	PBA1500T-48			
	VOLTAGE[V]		AC170 - 264 3φ (AC100 Pleas	se refer to the instruction ma	anual 7. option *5)				
	CURRENT[A]	ACIN 200V	6typ						
	FREQUENCY[Hz]		50/60 (47 - 63)						
INPUT	EFFICIENCY[%]	ACIN 200V	81typ	84typ	87typ	87typ			
	POWER FACTOR	ACIN 200V	0.95typ (Io=100%)		·	·			
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (Io=100%) (Primary in	nrush current /Secondary in	rush current) (More than 10 se	ec. to re-start)			
	LEAKAGE CURRENT[r	nA]	1.5max (ACIN 240V 60Hz, Io=	100%, According to IEC623	68-1, 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			
	-20 - 0		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 the start of the st	or less than 1 minute of applying i	nput again from turning off the input voltage			
	HOLD-UP TIME[ms]		20typ (ACIN 200V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[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 curr	rent or 101% of peak curren	t 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	OPERATING INDICATION	NC	LED (Green)						
OTHERS	REMOTE SENSING		Provided						
	REMOTE ON/OFF		Provided						
	INPUT-OUTPUT · RC		AC3,000V 1minute, Cutoff curr	rent = 25mA, DC500V 50Mg	Ωmin (At Room Temperature)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff curr	rent = 25mA, DC500V 50Mg	Ωmin (At Room Temperature)				
IOOLATION	OUTPUT · RC · AUX-F	G	AC500V 1minute, Cutoff currer	nt = 100mA, DC500V 50M	min (At Room Temperature)				
	OUTPUT-RC · AUX		AC500V 1minute, Cutoff currer	nt = 100mA, DC500V 50M	min (At Room Temperature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE	-20 to +71°C (Refer to "Deratin	<u> </u>		nax			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	· · · · · · · · · · · · · · · · · · ·						
	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						
SAFETY AND NOISE	AGENCY APPROVALS (At only	AC input)	UL60950-1, C-UL(CSA60950-	·					
REGULATIONS	CONDUCTED NOISE		<u> </u>	Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class B					
OTHERS	CASE SIZE/WEIGHT		178 x 61 x 268mm [7.01 x 2.4 x 10.55 inches] (without terminal block and screw) (W x H x D) /3.4kg max						
O.HEHO	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
- *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 ≜ 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.

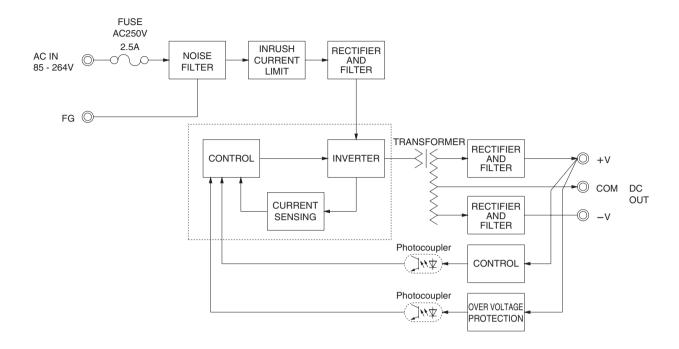
MODEL		PBW15F-12	PBW15F-15
MAX OUTPUT WATTAGE[W] *5		16.8	15.0
	VOLTAGE[V] *6	±12 (+24)	±15 (+30)
DC OUTPUT	CURRENT1[A]	0.7	0.5
	CURRENT2[A] *5	1.4	1.0

	MODEL		PBW15F-12		PBW15F-15			
	VOLTAGE[V]		AC85 - 264 1 φ 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	77typ (CURRENT1)		80typ (CURRENT1)			
	ACIN 100		15typ (CURRENT1) (At cold sta	art)	7			
	INRUSH CURRENT[A]		30typ (CURRENT) (At cold start)					
	LEAKAGE CURRENT[r			/ 60Hz, lo=100%, According to	IEC62368-1,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]		600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2	[mV] *1	750max	/-	750max	/ -		
	DIDDI El-Ve -1	0 to +50°C *1	120max	/ 240max	120max	/ 240max		
	RIPPLE[mVp-p]	-10 - 0℃ *1	160max	/ 320max	160max	/ 320max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	150max	/ 300max	150max	/ 300max		
	KIPPLE NOISE[mvp-p]	-10 - 0℃ *1	180max	/ 360max	180max	/ 360max		
	TEMPERATURE REGULATION[mV]	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, lo=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 RANGE[V]		9.60 - 13.2 (+V and -V are simultaneously adjusted)		13.2 - 16.5 (+V and -V are sim	ultaneously adjusted)		
	OUTPUT VOLTAGE SET	TING[V]	11.5 - 12.5 (+V and -V CURRENT1)		14.4 - 15.6 (+V and -V CURRE	ENT1)		
	OVERCURRENT PROT	ECTION	Works over 105% of rated curre	ent and recovers automatically				
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC		16.8 - 24.0	16.8 - 24.0 20.0 - 29.0				
OTHERS	OPERATING INDICATION	NC	LED (Green)					
	REMOTE ON/OFF		None					
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)					
ISOLATION	INPUT-FG			ent = 10mA, DC500V 50M Ω mir				
	OUTPUT-FG			$t = 25mA$, DC500V $50M\Omega$ min				
	OPERATING TEMP.,HUMID.AND		-10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max					
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE		n condensing) 9,000m (30,000fe				
LITTITION	VIBRATION			nutes period, 60minutes each al	long X, Y and Z axis			
	IMPACT		196.1m/s ² (20G), 11ms, once e					
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-UL(CSA60950-1					
NOISE	CONDUCTED NOISE			sB, VCCI-B, CISPR22-B, EN550				
REGULATIONS	HARMONIC ATTENUAT	ΓOR		Not built-in to active filter *7) *1				
OTHERS	CASE SIZE/WEIGHT			.35 inches] (without terminal blo	ck) (W×H×D) / 200g max (with	cover : 235g max)		
OTTLENS	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
- side is fixed.
 - The sum of +power -power must be less than output power.

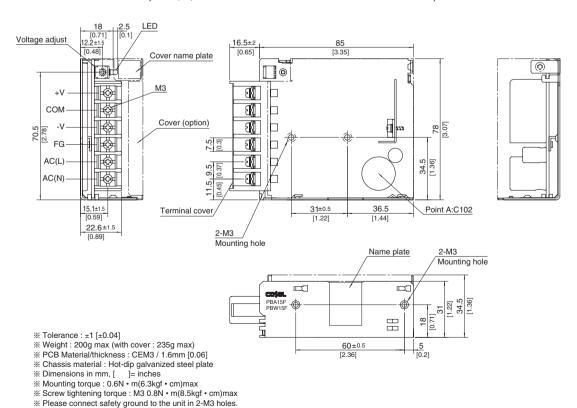
 - *6 ±12,±15 can be used as +24 and +30. *7 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.
 - *8 Derating is required.
 - *9 Figures to rated current 1.

- *10 Please contact us about safety approvals for the model with option.
- *11 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.



Ordering information

PBW30F

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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 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.

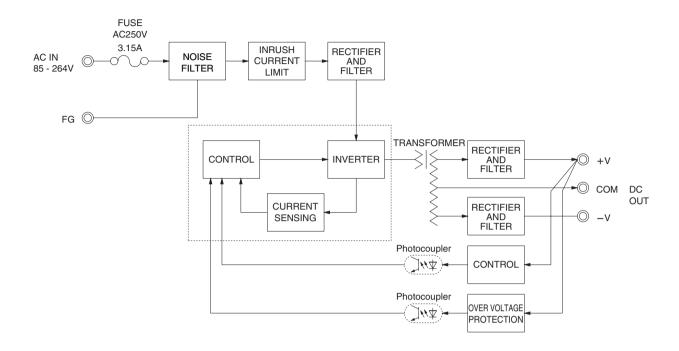
MODEL		PBW30F-5	PBW30F-12	PBW30F-15
MAX OUTPUT WATTAGE[W] *5		15	31.2	30.0
	VOLTAGE[V] *6	±5 (+10)	±12 (+24)	±15 (+30)
	CURRENT1[A]	1.5	1.3	1.0
	CURRENT2[A] *5	2.0	1.7	1.4

	MODEL		PBW30F-5		PBW30F-12		PBW30F-15				
	VOLTAGE[V]		AC85 - 264 1 φ or	DC110 - 370 (AC50 or	DC70 Please refer to	the instruction manua	1.1 Input voltage *8	3)			
		ACIN 100V	0.4typ (CURRENT	1)	0.7typ (CURRENT1)					
	CURRENT[A]	ACIN 200V	0.25typ (CURREN	T1)	0.4typ (CURRENT1)					
	FREQUENCY[Hz]		52.53/p (601112N17) [043/p) (601112N17) [043/p) (601112N17)								
INPUT	ACIN 100V		75typ (CURRENT1)	77typ (CURRENT1)		78typ (CURRENT1)				
	EFFICIENCY[%]	ACIN 200V	75typ (CURRENT1)		81typ (CURRENT1)		79typ (CURRENT1)				
		ACIN 100V	15typ (CURRENT1	5typ (CURRENT1) (At cold start)							
	INRUSH CURRENT[A]		30typ (CURRENT1) (At cold start)							
	LEAKAGE CURRENT[1	nA]	0.30/0.65max (ACI	N 100V/240V 60Hz, lo=	100%, According to	EC62368-1,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\	/] *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	/ -			
	DIDDI E(V1	0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max			
ОИТРИТ	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	/ 320max	160max	/ 320max	160max	/ 320max			
	DIDDLE NOISEL-V1	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max			
	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	/ 360max	180max	/ 360max	180max	/ 360max			
	TEMPERATURE REQUILATIONSVI	0 to +50℃	50max		120max		150max				
	TEMPERATURE REGULATION[mV]	-10 to +50℃	60max		150max		180max				
	DRIFT[mV] *2		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	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 are	e simultaneously adjusted)			
	OUTPUT VOLTAGE SET	TING[V]	4.99 - 5.30 (+V and	d -V CURRENT1)	11.5 - 12.5 (+V and -V CURRENT1)		14.4 - 15.6 (+V and -V CURRENT1)				
	OVERCURRENT PROT	ECTION	Works over 105% of rated current and recovers automatically								
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	6.90 - 10.0 16.8 - 24.0				20.0 - 29.0				
OTHERS	OPERATING INDICATION	NC	LED (Green)								
	REMOTE ON/OFF		None								
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)								
	OUTPUT-FG		AC500V 1minute, 0	Cutoff current = 25mA, I	DC500V 50M Ω min (At Room Temperature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +71°C (Refe	r to "Derating"), 20 - 90°	%RH (Non condensin	g) 3,000m (10,000feet)) max				
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max								
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s	s² (2G), 3minutes period	l, 60minutes each ald	ong X, Y and Z axis					
	IMPACT			1ms, once each X, Y a							
SAFETY AND	AGENCY APPROVALS (At only	/ AC input)		CSA60950-1), EN62368							
NOISE	CONDUCTED NOISE		Complies with FCC	Part15 classB, VCCI-E	B, CISPR22-B, EN550	011-B, EN55022-B					
REGULATIONS	HARMONIC ATTENUAT	ГOR		61000-3-2 (Not built-in t							
OTHERS	CASE SIZE/WEIGHT		31 × 78 × 103mm [1	1.22 × 3.07 × 4.06 inches] (without terminal blo	ock) (W×H×D) / 270	g max (with cover : 31	0g max)			
OTHERS	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.

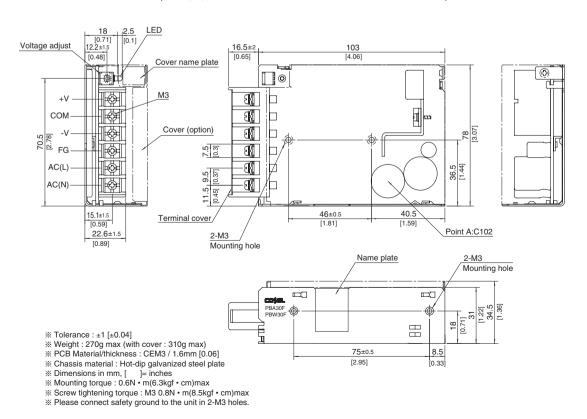
- *10 Please contact us about safety approvals for the model with option.
- *11 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from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



Ordering information

PBW50F

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Example recommended EMI/EMC filter NAC-06-472

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-

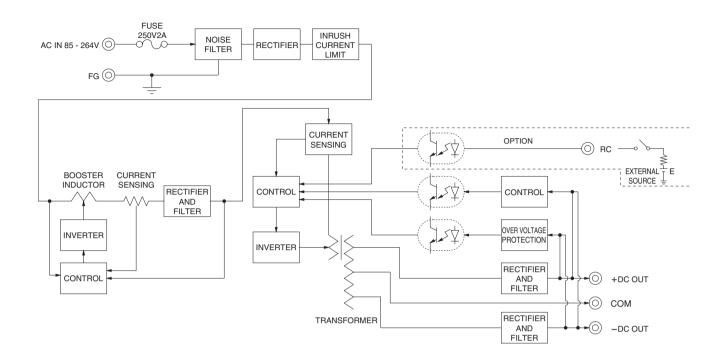
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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)
H	CURRENT1[A]	3.0	2.1	1.7
	CURRENT2[A] * €	4.0	2.7	2.4

	MODEL PBW50F-5		PBW50F-5	3W50F-5 PBW50F-12 F		PBW50F-15				
	VOLTAGE[V]		AC85 - 264 1 ϕ or DC120 - 370 (AC50 or DC70 Please refer to the instruction manual 1.1 Input voltage $*3$)							
	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)							
	EFFICIENCY[%] ACIN 100V ACIN 200V		76typ (CURRENT1)		81typ (CURRENT1)		81typ (CURRENT1)			
INPUT			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		0typ (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		
	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		
	LOAD REGULATION 2	mV] *5	500max	/ -	750max	/ -	750max	/ -		
DIDDI E(m\/n n)	RIPPLE[mVp-p]	0 to +50°C * 1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
	HIFF EE[IIIVP-P]	-10 - 0℃ *1	140max	/ 320max	160max	/ 320max	160max	/ 320max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C * 1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
	MIFFEE MOISE[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, lo=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	The state of the s							
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT · RC-FG	*/	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							

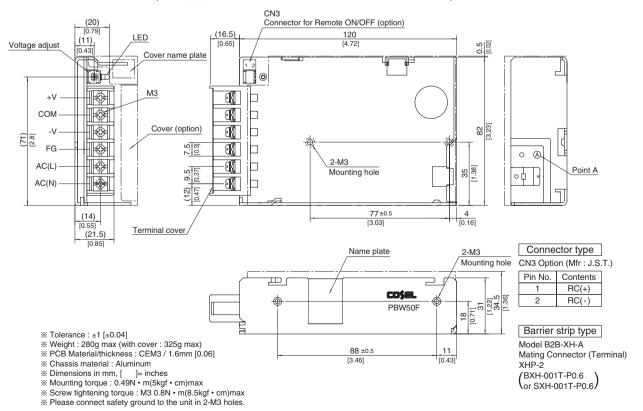
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN : RM101).
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *5 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

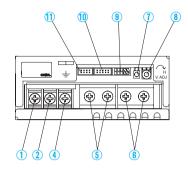
** External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



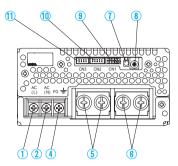
Terminal Blocks

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

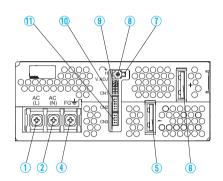
PBA300F



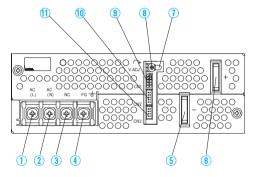
PBA600F



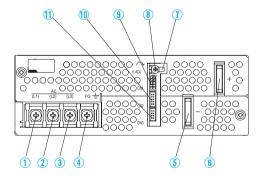
PBA1000F



PBA1500F



PBA1500T



*PBA300F - 1500F

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

②AC (N) ∫ (M4)

3NC

④Frame ground (M4 ±)

⑤-Output

®+Output

7LED

Output voltage adjustable potentiometer

9CN1

10CN2 Connectors

①CN3

*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

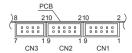
10CN2 Connectors

①CN3

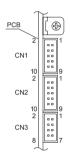


Terminal Blocks

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	
CN1 CN2	S10B-PHDSS	PHDR-10VS	Reel	: SPHD-002T-P0.5 : BPHD-001T-P0.5	
CN3	S8B-PHDSS	PHDR-08VS	Loose	. 6600-0011-60.5	

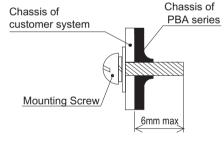
Assembling and Installation Method

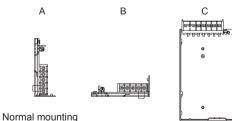
Installation Method

■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".



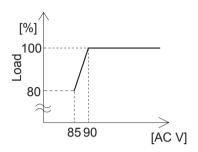


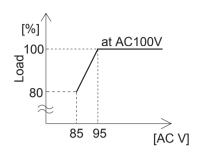
PBA300F, PBA600F, PBA1000F, PBA1500F and PBA1500T

- ■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.

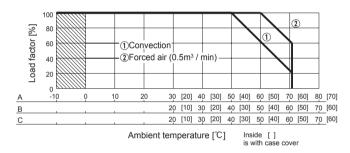
Derating

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

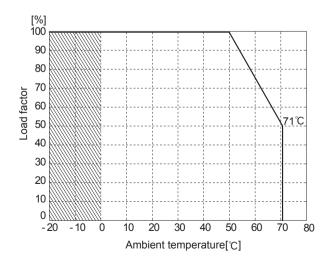




●PBA10F, PBA15F, PBW15F, PBA30F, PBW30F, PBA50F, PBW50F, PBA75F, PBA100F, PBA150F Ambient temperature derating curve



- ■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

Maria I	Of the distribution of	Switching	9 1	Rated input fuse	Inrush current	PCB/Pattern			Series/Parallel operation availability	
Model	Circuit method	frequency [kHz]	current [A]		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		Thermistor	CEM-3	Yes		Yes	*1
PBA30F	Flyback converter	100	0.7	250V 3.15A	Thermistor	CEM-3	Yes		Yes	*1
DDAEOE	Active filter	60 - 550	0.7	0501/ 04	Theymoietes	CEMA	Vaa		Vaa	.0.4
PBA50F	Forward converter	130	0.7	250V 2A	Thermistor	CEM-3	Yes		Yes	*1
DDAZEE	Active filter	60 - 550	1.0		Theoremiates	OFMO	V		V	.0.4
PBA75F	Forward converter	120		050)/ 0.454	Thermistor	CEM-3	Yes		Yes	*1
DDA400E	Active filter	60 - 550	4.0	250V 3.15A	The amount of a m	OEMO	Yes		.,	
PBA100F	Forward converter	120	1.3		Thermistor	CEM-3			Yes	*1
DDA4505	Active filter	60 - 550	2.0 250	050)/ 44	-	CEM-3	\/		Vaa	ale 1
PBA150F	Forward converter	120		250V 4A	Thermistor		Yes		Yes	*1
DD 4 000E	Active filter	230		250V 10A	SCR	ED 4		\/		V
PBA300F	Forward converter	330	4.1			FR-4		Yes	Yes	Yes
DDAGGGE	Active filter	130	0.0	050)/ 454	SCR	FR-4		Voc	Vas	V
PBA600F	Forward converter	330	8.2	250V 15A				Yes	Yes	Yes
DDA4000E	Active filter	130	40		000	FD 4		V	.,	
PBA1000F	Forward converter	280	13	0501/ 004	SCR	FR-4		Yes	Yes	Yes
DD 445005	Active filter	130	40	250V 30A	000	ED 4		V	V	V
PBA1500F	Forward converter	200	19		SCR	FR-4		Yes	Yes	Yes
DDA4500T	Active filter	130		0501/ 404	000	ED 4		V	V	V
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
DDWEOT	Active filter	60 - 550	0.7	0507.04	They was let	OEM 0	.,		Vaa	.0.4
PBW50F	Forward converter	130	0.7	250V 2A	Thermistor	CEM-3	Yes		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.