









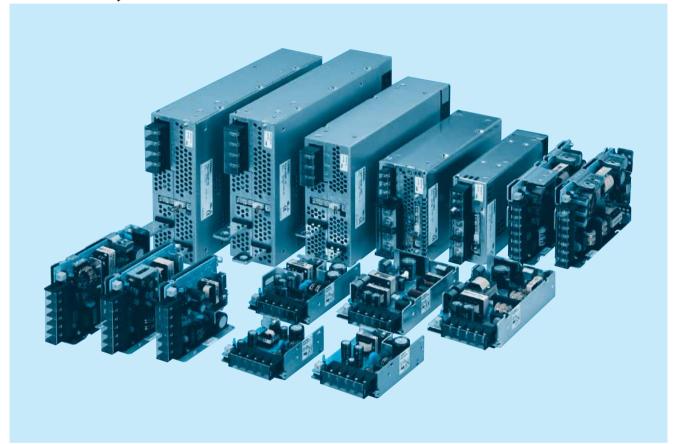








PBA, PBW-series



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

FMI

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

5-year warranty (refer to Instruction Manual)

CE marking

Low Voltage Directive RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

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

EN61000-4-2

EN61000-4-3

EN61000-4-4

EN61000-4-5

EN61000-4-6

EN61000-4-8

EN61000-4-11

PBA10F

A 10 F -





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.

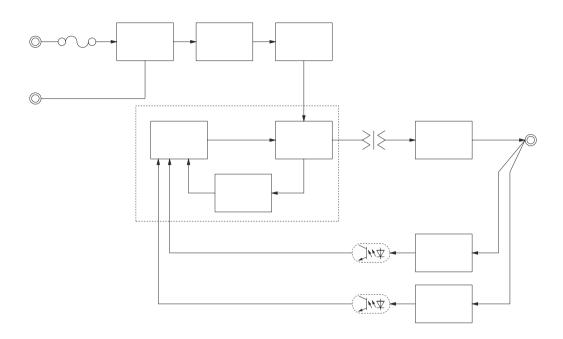
10	10.8	12
5V 2A	12V 0.9A	24V 0.5A

	MODEL		PBA10F-5	PBA10F-12	PBA10F-24			
	VOLTAGE[V]		AC85 - 264 1 φ or DC110 - 370 (AC5	0 or DC70 Please refer to the instruction	on manual 1.1 Input voltage *3)			
	OUDDENTIAL	ACIN 100V	0.30typ (Io=100%)					
	CURRENT[A]	ACIN 200V	0.20typ (Io=100%)					
	FREQUENCY[Hz]		50/60 (47 - 440) or DC					
INPUT	EEEIOJENOVIO(1	ACIN 100V	74typ	76typ	77typ			
	EFFICIENCY[%]	ACIN 200V	74typ	76typ	77typ			
	INDUCUI QUIDDENITAL	ACIN 100V	15typ (lo=100%)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%)					
	LEAKAGE CURREN	T[mA]	0.15/0.30max (ACIN 100V/240V 60Hz	, lo=100%, According to IEC62368-1, I	DENAN)			
	VOLTAGE[V]		5	12	24			
	CURRENT[A]		2	0.9	0.5			
	LINE REGULATION[mV] *6	20max	48max	96max			
	LOAD REGULATION	I[mV] *6	40max	100max	150max			
	DIDDI ElmVn n3	0 to +50°C *1	80max	120max	120max			
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	160max	160max			
	DIDDLE MOICEIV1	0 to +50°C *1	120max	150max	150max			
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *1	160max	180max	180max			
	TEMPERATURE REQUILATIONSVI	0 to +50℃	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, lo=100%) *Start-up time	e 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	TTING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96			
	OVERCURRENT PROT	ECTION	Works over 105% of rated current and	d recovers automatically				
PROTECTION CIRCUIT AND		CTION[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)			
SOLATION	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	-10 to +71℃ (Refer to "Derating"), 20	- 90%RH (Non condensing) 3,000m (10	0,000feet) max			
NVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non cond	ensing) 9,000m (30,000feet) max				
INVIRUNIVIENT	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes p	eriod, 60minutes each along X, Y and I	Z axis			
	IMPACT		196.1m/s ² (20G), 11ms, once each X,					
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-UL(CSA60950-1), EN6					
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
REGULATIONS	HARMONIC ATTENC		Complies with IEC61000-3-2 (Not buil					
OTHERS	CASE SIZE/WEIGHT	•	31 x 78 x 68mm [1.22 x 3.07 x 2.68 inches] (without terminal block) (W x H x D) / 150g max (with cover : 180g max					
JINERS	COOLING METHOD		Convection					

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

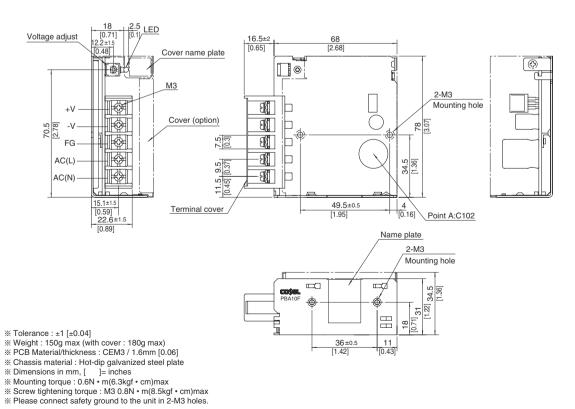
 A sound may occur from power supply at peak loading.





External view

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



PBA15F

A 15





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-

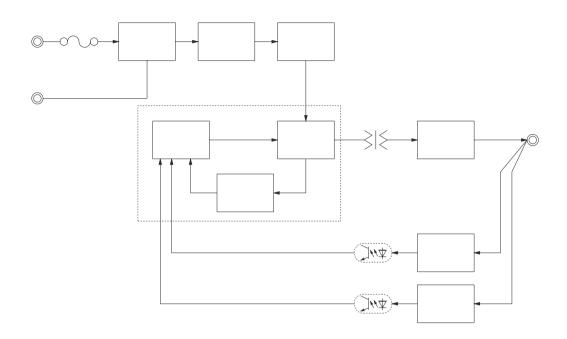
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

9.9	15	15.3	15.6	15	16.8	16.8
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 t	he instruction ma	nual 1.1 Input vo	ltage *3)			
	CURRENT[A]	ACIN 100V	0.30typ (lo=100%)	0.4typ (lo=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[%]	ACIN 100V	68typ	74typ	75typ	75typ	77typ	75typ	75typ			
	EFFICIENCT[%]	ACIN 200V	68typ	75typ	77typ	78typ	80typ	78typ	78typ			
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start)								
	INNUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)								
	LEAKAGE CURREN	T[mA]	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			
	RIPPLE[IIIVP-p]	- 10 - 0 °C *1	140max	140max	160max	160max	160max	160max	200max			
	DIDDLE MOICEIMVa al	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max			
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0 ℃ *1	160max	160max	180max	180max	180max	180max	300max			
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	90max	120max	150max	240max	480max			
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	120max	150max	180max	290max	600max			
	DRIFT[mV]	*2		20max	36max	48max	60max	96max	192max			
	START-UP TIME[ms]		200typ(ACIN 100V	, lo=100%) *Start-i	up time is 700ms typ	p for less than 1min	ute of applying input	again from turning	off the input voltage			
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=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	automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	58.0 - 65.0			
OTHERS	OPERATING INDICA	TION	LED (Green)									
	REMOTE ON/OFF		None									
	INPUT-OUTPUT						At Room Tempera					
ISOLATION	INPUT-FG						At Room Tempera					
	OUTPUT-FG						Room Temperati					
	OPERATING TEMP.,HUMID.AND	ALTITUDE					3,000m (10,000	feet) max				
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE		0 - 90%RH (Non								
LITTION	VIBRATION			10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT), 11ms, once ea								
SAFETY AND	AGENCY APPROVALS (At only		UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN									
NOISE	CONDUCTED NOISE			CC Part15 class			1-B, EN55022-B					
REGULATIONS				Complies with IEC61000-3-2 (Not built-in to active filter *4) *7								
OTHERS	CASE SIZE/WEIGHT	•		$[1.22 \times 3.07 \times 3.3]$	35 inches] (witho	ut terminal block) (W×H×D) / 20	00g max (with co	ver : 235g max)			
OTTENS.	COOLING METHOD		Convection									

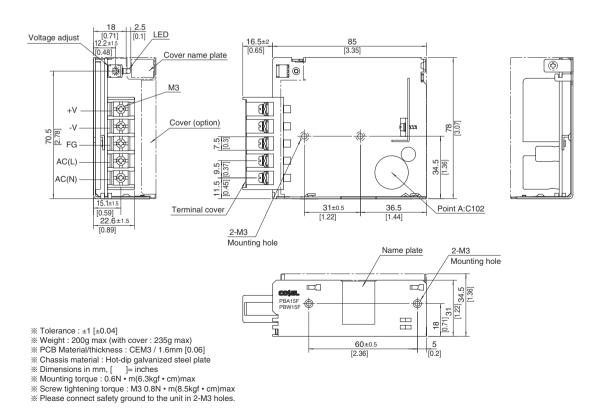
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.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





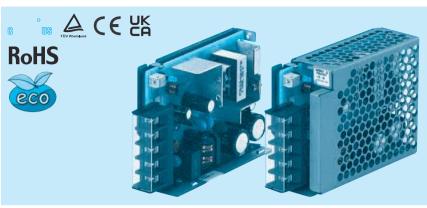
External view

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



PBA30F

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Example recommended EMI/EMC filter NAC-06-472

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

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

Cover is optional

①Series name ②Single output

- (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current E:Low leakage current
 - and EMI class A
 - T : Vertical terminal block
 - J1 :VH (J.S.T.) connector type N :with Cover
 - (UL508 is acquired [5V, 12V, 24V])
 - N1: with DIN rail and Cover
 - V:Output voltage setting potentiometer external-

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

19.8	30	30.6	30	30	31.2	31.2
3.3V 6A	5V 6A	9V 3.4A	12V 2.5A	15V 2A	24V 1.3A	48V 0.65A

	MODEL		PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48		
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to t	he instruction ma	nual 1.1 Input vo	ltage *3)		
	CUDDENTIAL	ACIN 100V	0.50typ (lo=100%)	0.70typ (lo=100	1%)						
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.40typ (lo=100	1%)						
	FREQUENCY[Hz]		50/60 (47 - 440	or DC							
INPUT	EFFICIENCY[%]	ACIN 100V	68typ	74typ	75typ	76typ	78typ	78typ	79typ		
	EFFICIENCI[%]	ACIN 200V	69typ	77typ	77typ	78typ	81typ	81typ	81typ		
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%) (At cold start)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)							
	LEAKAGE CURREN	T[mA]	0.30/0.65max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1,DENAN)								
	VOLTAGE[V]		3.3	5	9	12	15	24	48		
	CURRENT[A]		6	6	3.4	2.5	2	1.3	0.65		
	LINE REGULATION[mV] *6	20max	20max	36max	48max	60max	96max	192max		
	LOAD REGULATION	[mV] *6	40max	40max	100max	100max	120max	150max	240max		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max		
	uice_cc[iii.kh-h]	-10 - 0 °C *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	HIPPLE NOISE[IIIVP-P]	-10 - 0 ℃ *1	160max	160max	180max	180max	180max	180max	300max		
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	90max	120max	150max	240max	480max		
	TEMPERATURE REGULATION[IIIV]	-10 to +50℃	60max	60max	120max	150max	180max	290max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max		
	START-UP TIME[ms]		200typ(ACIN 100V	, lo=100%) *Start-	up time is 700ms typ	p for less than 1min	ute of applying input	again from turning	off the input voltage		
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=100%)							
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.85 - 3.60	4.50 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	39.0 - 53.0		
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	48.00 - 49.92		
	OVERCURRENT PROT			% of rated curre	nt 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	58.0 - 65.0		
OTHERS	OPERATING INDICA	TION	LED (Green)								
	REMOTE ON/OFF		None								
	INPUT-OUTPUT						At Room Tempera				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature)								
	OUTPUT-FG						Room Temperati				
	OPERATING TEMP.,HUMID.AND						3,000m (10,000	feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE				00m (30,000feet					
	VIBRATION			10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT), 11ms, once ea							
SAFETY AND	AGENCY APPROVALS (At only					nplies with DEN-					
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
neduLATIONS			Complies with IEC61000-3-2 (Not built-in to active filter *4) *7 31 × 78 × 103mm [1.22 × 3.07 × 4.06 inches] (without terminal block) (W × H × D) / 270g max (with cover : 310g max)								
OTHERS	CASE SIZE/WEIGHT			n [1.22 × 3.07 × 4	.06 inches] (with	out terminal bloc	k) (W×H×D) / 2	270g max (with co	over : 310g max		
	COOLING METHOD		Convection								

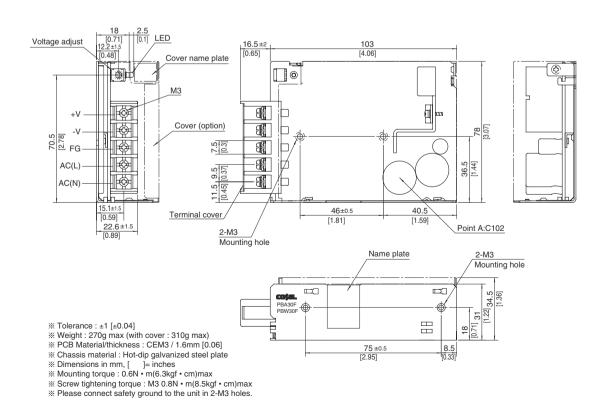
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.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

 A sound may occur from power supply at peak loading.



External view

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



PBA50F

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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.

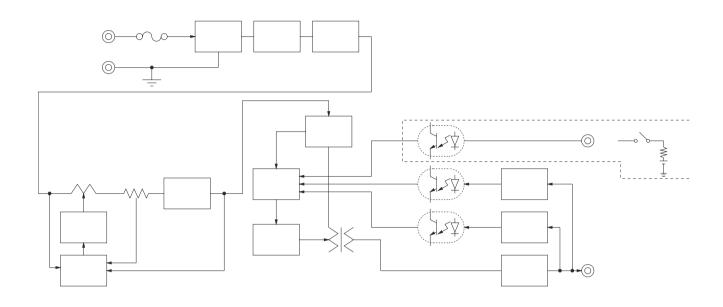
33	50	50.4	51.6	52.5	52.8	50.4	52.8
3.3V 10A	5V 10A	9V 5.6A	12V 4.3A	15V 3.5A	24V 2.2A	36V 1.4A	48V 1.1A

	MODEL		PBA50F-3R3	PBA50F-5	PBA50F-9	PBA50F-12	PBA50F-15	PBA50F-24	PBA50F-36	PBA50F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 37	0 (AC50 or DC7	D Please refer to	the instruction r	nanual 1.1 Input	voltage *4)		
	OUDDENTIAL	ACIN 100V	0.5typ	0.7typ							
	CURRENT[A]	ACIN 200V	0.3typ	0.4typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EEEIOIENOVIO/1	ACIN 100V	75typ	80typ	79typ	80typ	81typ	82typ	83typ	83typ	
INPUT	EFFICIENCY[%]	ACIN 200V	76typ	82typ	81typ	82typ	83typ	84typ	85typ	85typ	
	DOWED FACTOR/L- 4000/	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ							
	INDUCUI QUIDDENTIAL	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 (A	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	īV]	40max	40max	100max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	RIPPLE[IIIVP-P]	-10 - 0°C *1	140max	140max	160max	160max	160max	160max	200max	200max	
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max	
OUTPUT	RIPPLE NOISE[IIIVP-P]	-10 - 0 °C *1	160max	160max	180max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max	
	. 1	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, 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]	3.30 - 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				ent and recovers						
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 po							
	INPUT-OUTPUT · RC	*3			ent = 10mA, DC						
ISOLATION	INPUT-FG				ent = 10mA, DC						
	OUTPUT · RC-FG	*3			t = 100mA, DC5						
	OPERATING TEMP.,HUMID.AND				g"), 20 - 90%RH			00feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE			n condensing) 9,						
LITTION	VIBRATION				inutes period, 60		ong X, Y and Z a	axis			
	IMPACT		196.1m/s² (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								
REGULATIONS	HARMONIC ATTENUAT	OR	Complies with IEC61000-3-2 *6 31×82×120mm [1.22×3.23×4.72 inches] (without terminal block) (W×H×D) / 280g max (with cover: 325g max)								
OTHERS	CASE SIZE/WEIGHT			m [1.22 × 3.23 ×	4.72 inches] (wit	hout terminal blo	ock) (W×H×D)	/ 280g max (wit	h cover : 325g m	ax)	
O.HEHO	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.

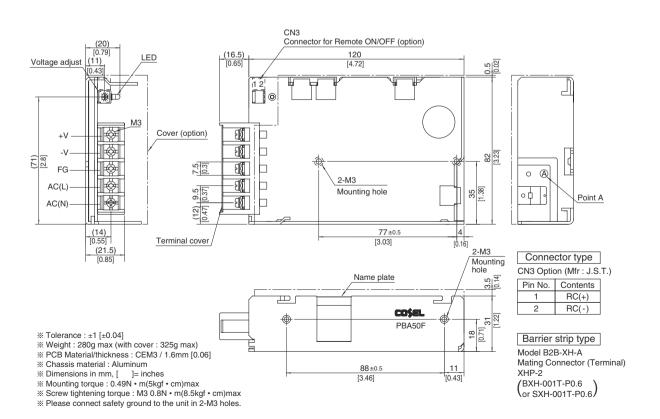
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





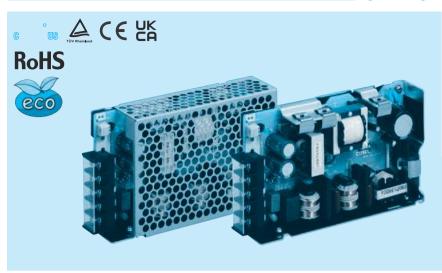
External view

* 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.



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.

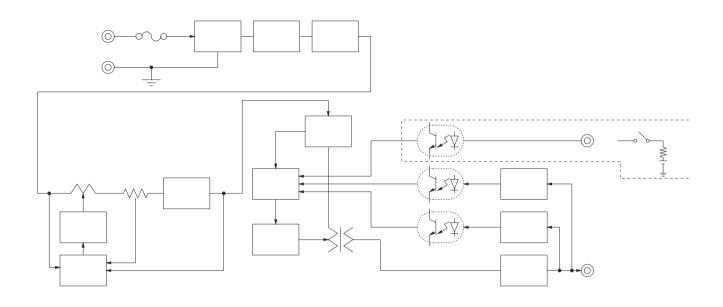
49.5	75	75.6	75.6	75	76.8	75.6	76.8
3.3V 15A	5V 15A	9V 8.4A	12V 6.3A	15V 5A	24V 3.2A	36V 2.1A	48V 1.6A

	MODEL		PBA75F-3R3	PBA75F-5	PBA75F-9	PBA75F-12	PBA75F-15	PBA75F-24	PBA75F-36	PBA75F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 37	0 (AC50 or DC7	D Please refer to	the instruction r	nanual 1.1 Input	t voltage *4)		
	OUDDENITIAL	ACIN 100V	0.7typ	1.0typ				•			
	CURRENT[A]	ACIN 200V	0.4typ	0.5typ							
	FREQUENCY[Hz]		50/60 (47 - 63)	, , ,							
		ACIN 100V	77typ	81typ	80typ	81typ	82typ	83typ	84typ	84typ	
INPUT	EFFICIENCY[%]	ACIN 200V		83typ	82typ	83typ	84typ	85typ	86typ	86typ	
	DOWED FACTOR/L 4000/	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ							
	INDUOLI GUDDENTIAL	ACIN 100V	15typ (lo=100%	(At cold start)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%	(At cold start)							
	LEAKAGE CURRENT[1	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[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	nV]	40max	40max	100max	100max	120max	150max	240max	240max	
	DIDDI E(V1	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	140max	160max	160max	160max	160max	200max	200max	
	DIDDLE NOICE(V1	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max	
DUIPUI	RIPPLE NOISE[mVp-p]	-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[MV]	-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		350typ(ACIN 1	00V, lo=100%)							
	HOLD-UP TIME[ms]		20typ (ACIN 10	00V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0	
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT	ECTION	Works over 10	5% of rated curr	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 INDICATIO	ON	LED (Green)								
	REMOTE ON/OFF			ired external por							
	INPUT-OUTPUT · RC	*3	AC3,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)			
ISOLATION	INPUT-FG		AC2,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)			
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	00V 50MΩmin (At Room Tempe	erature)			
	OPERATING TEMP.,HUMID.AND	ALTITUDE				(Non condensing		00feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75°C, 2	0 - 90%RH (No	n condensing) 9,	000m (30,000fee	et) max				
LINVINONWILLINI	VIBRATION					minutes each ald	ong X, Y and Z a	axis			
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis								
SAFETY AND		/ AC input)									
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS	TIATIMONIO ATTENDA			Complies with IEC61000-3-2 *6							
OTHERS	CASE SIZE/WEIGHT		32 × 82 × 135m	m [1.26 × 3.23 ×	5.31 inches] (wit	hout terminal blo	ock) (W×H×D)	/ 350g max (wit	h cover : 400g m	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.

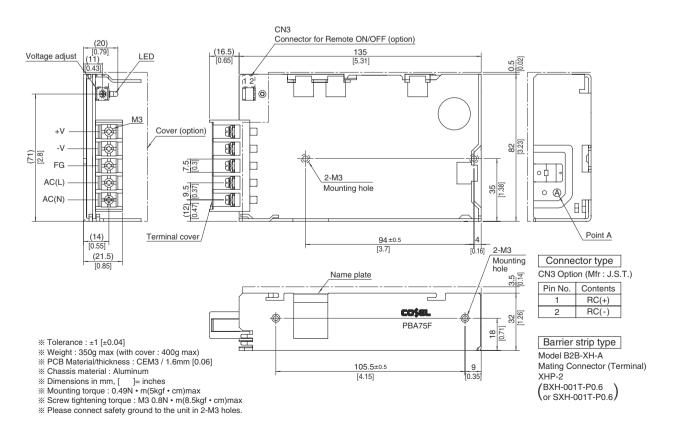
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible. Derating is required when operated with cover
- A sound may occur from power supply at peak loading.





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.



PBA100F

100

S A 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.

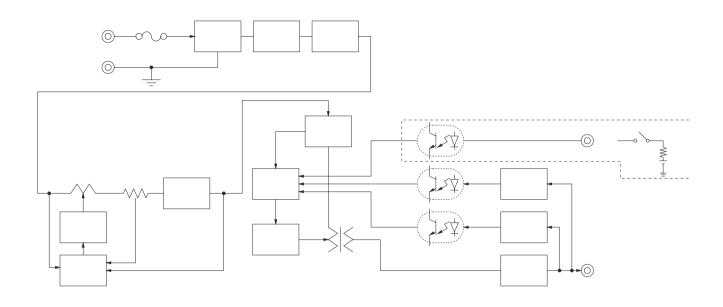
66	100	94.5	102	105	108	100.8	100.8
3.3V 20A	5V 20A	9V 10.5A	12V 8.5A	15V 7A	24V 4.5A	36V 2.8A	48V 2.1A

	MODEL		PBA100F-3R3	PBA100F-5	PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 370	0 (AC50 or DC7	D 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)								
	EEEICIENCVI9/1	ACIN 100V	77typ	82typ	80typ	81typ	83typ	84typ	84typ	84typ	
INPUT	EFFICIENCY[%]	ACIN 200V	79typ	84typ	82typ	83typ	86typ	86typ	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	20typ (lo=100%	(At cold start)							
	INKUSH CUKKENT[A]	ACIN 200V	40typ (lo=100%	(At cold start)							
	LEAKAGE CURRENT[I	mA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C62368-1, DEN	AN)			
	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\	V]	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	
	піггесішур-рі	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max	
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max	
DUTPUT	HIFFEE NOISE[IIIVP-P]	-10 - 0°C *1		160max	180max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max	
	TEMPERATURE REGULATION[IIV]	-10 to +50℃		60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2		20max	36max	48max	60max	96max	144max	192max	
			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		3.20 - 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				ent and recovers					1	
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)								
UTHERS	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				600V 50MΩmin (
	OPERATING TEMP.,HUMID.AND					(Non condensing		Juteet) max			
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALIIIUDE				000m (30,000fee					
	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							
	IMPACT	. 40 :1					LANI				
SAFETY AND	AGENCY APPROVALS (At only	y AC input)				omplies with DEN		D			
NOISE REGULATIONS	CONDUCTED NOISE	TOR				SPR22-B, EN550	111-B, EN55022-	В			
	HARMONIC ATTENUAT	IUK		EC61000-3-2 *		hand damed a 2000	-I-) (M1-411D)	/ 440=====/ ''	h		
OTHERS	CASE SIZE/WEIGHT			m [1.26 X 3.66 X	5.79 inchesj (wit	hout terminal blo	OCK) (WXHXD)	440g max (wit	n cover : 500g 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.

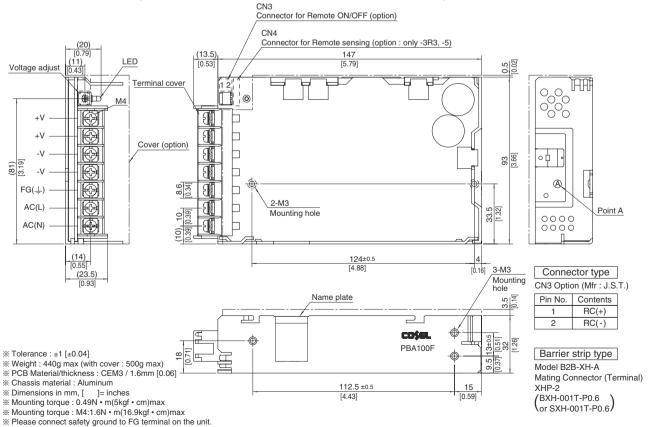
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

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



PBA150F

150



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.

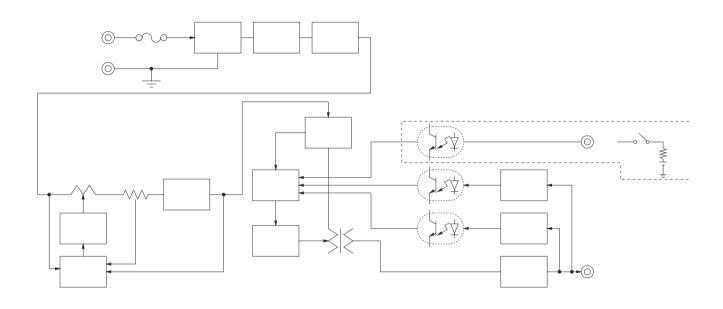
99	150	150.3	156	150	156	154.8	158.4
3.3V 30A	5V 30A	9V 16.7A	12V 13A	15V 10A	24V 6.5A	36V 4.3A	48V 3.3A

	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 DC7	D Please refer to	the instruction i	manual 1.1 Input	voltage *4)	
	CURRENT[A]	ACIN 100V	1.3typ	2.0typ						
	CURRENT[A]	ACIN 200V	0.7typ	1.0typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EEEIOIENOVI0/1	ACIN 100V	80typ	83typ	82typ	83typ	84typ	85typ	85typ	85typ
INPUT	EFFICIENCY[%]	ACIN 200V	82typ	86typ	85typ	86typ	87typ	88typ	88typ	88typ
	DOWED FACTOR/L. 4000()	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ						
	INDUCUI CURRENTIAL	ACIN 100V	20typ (lo=100%	(At cold start)						
	INRUSH CURRENT[A]	ACIN 200V	40typ (lo=100%	(At cold start)						
	LEAKAGE CURRENT[mA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C62368-1,DENA	AN)		
	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
	DIDDI Elmiya mi	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	140max	160max	160max	160max	160max	200max	200max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max
OUTPUT	RIPPLE NOISE[mVp-p]	-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max
	TEMPERATURE REQUIRATIONS	0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max
	TEMPERATURE REGULATION[mV]	-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 10	0V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMEN	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	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 105	5% 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 INDICATI	ON	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	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)		
ISOLATION	INPUT-FG		AC2,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)		
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	00V 50MΩmin (At Room Tempe	erature)		
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (F	Refer to "Derating	g"), 20 - 90%RH	(Non condensing	g) 3,000m (10,0	00feet) max		
ENI//DONMENT	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	axis		
	IMPACT		196.1m/s ² (200	a), 11ms, once e	each X, Y and Z	axis	_			
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-I	JL(CSA60950-1), EN62368-1 Co	omplies with DEN	N-AN			
NOISE	CONDUCTED NOISE									
REGULATIONS	HARMONIC ATTENUA	TOR	Complies with IEC61000-3-2 *6							
OTHERS	CASE SIZE/WEIGHT		34×93×168m	m [1.34×3.66×	6.61 inches] (wit	hout terminal blo	ock) (W×H×D)	/ 560g max (wit	h cover : 630g m	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.

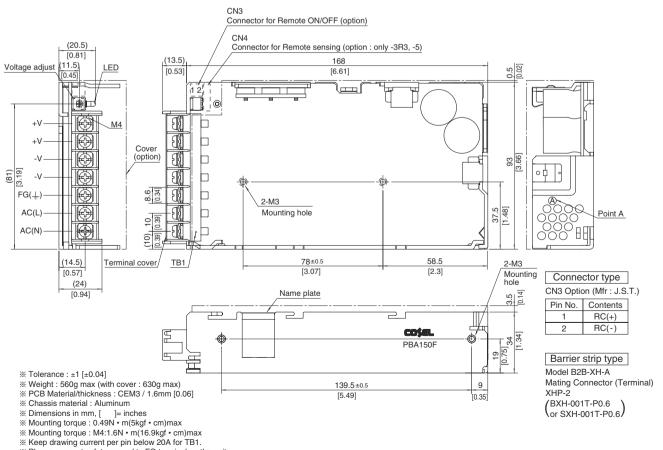




External view

* 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

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-06-472

①Series name ②Single output

(3) Output wattage 4 Universal input

5 Output 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.

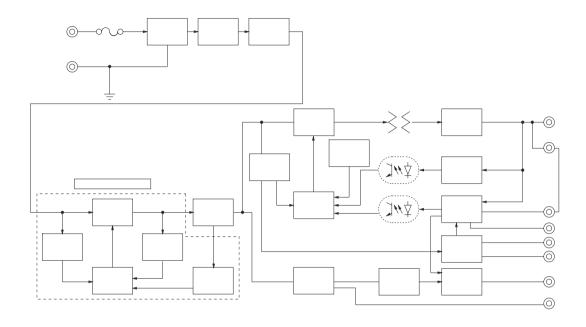
*3	3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14(16.5)A	36V 9A	48V 7A
	3.3V 60A	5V 60A	7.5V 40A	12V 27A	15V 22A	24V 14A	36V 9A	48V 7A
	198	300	300	324	330	336	324	336

	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 - 35	0 (AC50 or DC70	Please refer to	the instruction r	nanual 7. option	*4)	
	CURRENT[A]	ACIN 100V	3typ	4.1typ						
	CURRENT[A]	ACIN 200V	1.6typ	2typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EEEIOIENOVI0/1	ACIN 100V	68typ	74typ	76typ	78typ	78typ	79typ	81typ	79typ
INPUT	EFFICIENCY[%]	ACIN 200V	71typ	77typ	79typ	81typ	81typ	82typ	84typ	82typ
	DOWED FACTOR	ACIN 100V	0.98typ (lo=100)%)						
	POWER FACTOR	ACIN 200V	0.95typ (Io=100)%)						
	INDUCU OUDDENTIAL	ACIN 100V	20/40typ (lo=10	00%) (Primary in	rush current /Se	condary inrush o	current) (More th	en 3 sec. to re-s	start)	
	INRUSH CURRENT[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/240V	/ 60Hz, lo=100%	According to I	EC62368-1,DEN	AN)		
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	OUDDENTIAL	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
	DIDDI Elm\/m m1	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-20 - 0 °C *1	140max	140max	160max	160max	160max	160max	160max	400max
OUTPUT	DIDDLE NOICEIV1	0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
OUIPUI	RIPPLE NOISE[mVp-p]	-20 - 0 °C *1	160max	160max	180max	180max	180max	180max	240max	500max
	TEMPERATURE REGULATION[mV]	0 to +50℃	40max	50max	75max	120max	150max	240max	360max	480max
	TEMPERATURE REGULATION[IIIV]	-20 to +50℃	60max	75max	120max	180max	180max	290max	440max	600max
	DRIFT[mV]	*2	12max	20max	30max	48max	60max	96max	144max	192max
	START-UP TIME[ms]		300typ(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				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
	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					
	OUTPUT · RC · AUX-F	G			t = 100mA, DC5					
	OUTPUT-RC · AUX				t = 100mA, DC5					
	OPERATING TEMP., HUMID. AND				g"), 20 - 90%RH			Ofeet) 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					
SAFETY AND	AGENCY APPROVALS (At only	AC input)		L60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN						
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B							
HEGULATIONS	HARMONIC ATTENUAT	TOR	Complies with IEC61000-3-2 *6 102×42×170mm [4.02×1.65×6.69 inches] (without terminal block and screw) (W×H×D) /1.0kg max							
OTHERS	CASE SIZE/WEIGHT				< 6.69 inches] (w	ithout terminal b	lock and screw)	$(W \times H \times D) /1.0$	kg max	
	COOLING METHOD		Forced cooling	(internal fan)						

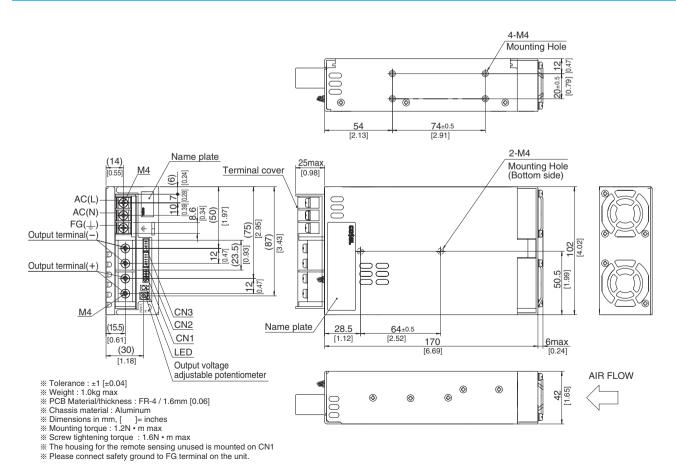
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at $25\,^{\circ}\!\text{C}$. *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- $\divideontimes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

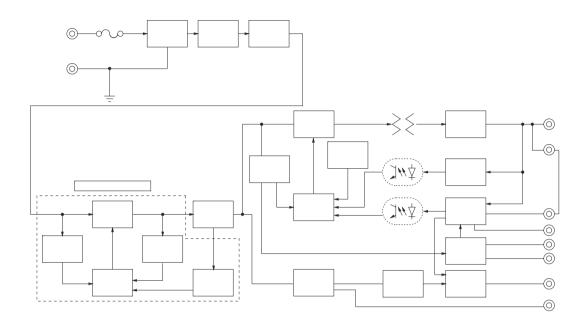
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

	396	600	600	636	645	648	648	624
	3.3V 120A	5V 120A	7.5V 80A	12V 53A	15V 43A	24V 27A	36V 18A	48V 13A
*3	3.3V 120A	5V 120A	7.5V 80A	12V 53A	15V 43A	24V 27(31)A	36V 18A	48V 13A

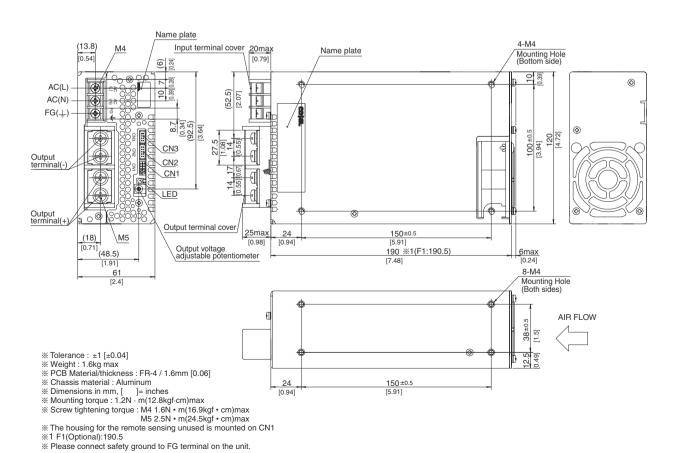
	MODEL		PBA600F-3R3	PBA600F-5	PBA600F-7R5	PBA600F-12	PBA600F-15	PBA600F-24	PBA600F-36	PBA600F-48	
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 35	0 (AC50 or DC70	Please refer to	the instruction r	nanual 7. option	* 5)		
	CURRENT[A]	ACIN 100V	5.8typ	8.2typ							
	CONNENT[A]	ACIN 200V		4.1typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EFFICIENCY[%]	ACIN 100V	70typ	75typ	76typ	79typ	79typ	81typ	82typ	81typ	
INPUT	EFFICIENCY[%]	ACIN 200V	72typ	77typ	79typ	82typ	82typ	84typ	84typ	83typ	
	POWER FACTOR		0.98typ (lo=100								
	POWER FACTOR	ACIN 200V	0.95typ (lo=100)%)							
	INRUSH CURRENT[A]	ACIN 100V			rush current /Se						
		ACIN 200V			rush current /Se				start)		
	LEAKAGE CURRENT[1	mA]	0.45/0.75max (ACIN 100V/240	√ 60Hz, lo=100%	According to I	EC62368-1, DEN	NAN)			
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48	
	CURRENT[A]	ACIN 100V	120	120	80	53	43	27	18	13	
	CURRENT[A]	ACIN 200V *3	120	120	80	53	43	27(31)	18	13	
	LINE REGULATION[m)	/]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	ıV]	40max	40max	60max	100max	120max	150max	150max	300max	
	DIDDI Elevie el	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max	
OUTPUT	DIDDLE NOICE(V1	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	
	TEMPERATURE REGULATION[mV]	0 to +50℃	40max	50max	75max	120max	150max	240max	360max	480max	
	- 1 -2	-20 to +50℃	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	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				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	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				g"), 20 - 90%RH			Oofeet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE			n condensing) 9,						
LITTITION	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		ENCY APPROVALS (At only AC input) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN									
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS	HARMONIC ATTENUAT	Complies with IEC61000-3-2 *7 120 x 61 x 190 mm [4.72 x 2.4 x 7.48 inches] (without terminal block and screw) (W x H x D) /1.6kg max									
OTHERS	CASE SIZE/WEIGHT				7.48 inches] (wit	hout terminal blo	ck and screw) (\	$W \times H \times D$) /1.6kg	g max		
	COOLING METHOD		Forced cooling	(internal fan)							

- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- *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
- 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



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.

- (3) Output wattage 4 Universal input
 - ⑤Output voltage

①Series name ②Single output

- Optional *6
 C:with Coating
 - G:Low leakage current
 U:Operation stop voltage
 - is set at a lower value
 - F1:With Long-Life fan
- F3:Reverse air exhaust type
- F4:Low speed fan

Refer to instruction manual

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

MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48
MAX OUTPUT WATTAGE[W]		660	1000	1005	1056	1050	1056	1044	1056
DO CUITRUIT	ACIN 100V	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

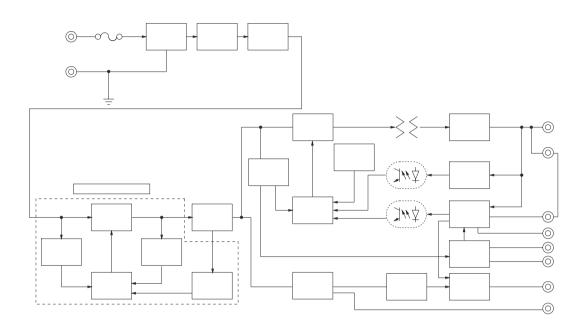
SPECIFICATIONS

	MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 35	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	* 5)	
	CURRENT[A]	ACIN 100V	9typ	13typ						
	CONNENT[A]	ACIN 200V		7typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
	EFFICIENCY[%]	ACIN 100V	74typ	79typ	80typ	82typ	82typ	84typ	84typ	84typ
INPUT	EFFICIENCI[/6]	ACIN 200V		81typ	83typ	84typ	84typ	86typ	86typ	86typ
	POWER FACTOR	ACIN 100V	0.98typ (lo=100)%)						
	POWER FACTOR	ACIN 200V	0.95typ (lo=100)%)						
	INRUSH CURRENT[A]	ACIN 100V			rush current /Se					
	INNOSTI CONNENT[A]	ACIN 200V			rush current /Se				start)	
	LEAKAGE CURRENT[r	nA]	0.5/1.0max (AC	IN 100V/240V 6	60Hz, lo=100%, /	According to IEC	62368-1, DENAI	N)		
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	CURRENT[A]	ACIN 100V	200	200	134	88	70	44	29	22
	CURRENT[A]	ACIN 200V *3	200	200	134	88	70	44(51)	29	22
	LINE REGULATION[m\	/]	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m	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	DIDDLE NOICE[mVm m]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
OUIPUI	TEMPERATURE REGULATION[mV]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max
		0 to +50°C	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]				*Start-up time is	500ms typ for less	than 1minute of a	applying input aga	in from turning off	the input voltage.
	HOLD-UP TIME[ms]		20typ (ACIN 10							
	OUTPUT VOLTAGE ADJUSTMENT		2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00
	OUTPUT VOLTAGE SET		3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT				ent or 101% of p					
PROTECTION	OVERVOLTAGE PROTECT		Vo+0.66 - 1.32	Vo+1.0 - 2.0	Vo+1.5 - 3.0	Vo+2.4 - 4.8	Vo+3.0 - 6.0	Vo+4.8 - 9.6	Vo+7.2 - 14.4	Vo+4.8 - 12.0
CIRCUIT AND OTHERS		ON	LED (Green)							
UITERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided							
	INPUT-OUTPUT · RC				ent = 25mA, DC5		·			
ISOLATION	INPUT-FG	_			ent = 25mA, DC5	· · · · · · · · · · · · · · · · · · ·		,		
	OUTPUT · RC · AUX-F	G			it = 100mA, DC5					
	OUTPUT-RC · AUX				it = 100mA, DC5					
	OPERATING TEMP.,HUMID.AND				g"), 20 - 90%RH			Ofeet) 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/s ² (20G), 11ms, once each X, Y and Z axis								
SAFETY AND	AGENCY APPROVALS (At only	AC input)								
NOISE REGULATIONS	CONDUCTED NOISE	FOD.	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *7							
00	HARMONIC ATTENUAT	IOK				hand damed and the	al. and a suc. \ ()	M > (1 > D) (0 0)		
OTHERS	CASE SIZE/WEIGHT				9.45 inches] (with	nout terminal blo	ck and screw) (V	v x H X D) /2.2kg	g max	
	COOLING METHOD		Forced cooling	(ınternai tan)						

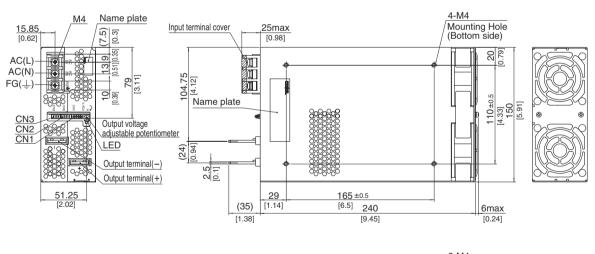
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
 - Ripple and ripple noise is measured on measuring board with capacitor of 22 $\mu\,\text{F}$ within 150mm from the output terminal.
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up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

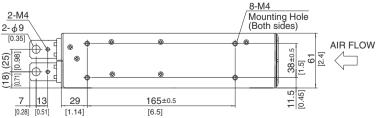
PBA/PBW-20 January 06, 2023 www.cosel.co.jp/en/





External view





- % Tolerance: ±1 [±0.04]
 % Weight: 2.2kg max
 % PCB Material/thickness: FR-4 / 1.6mm [0.06]
 % Chassis material: Alluminum

- Chassis finate at: Authoritidit
 Dimensions in mm, []= inches
 Mounting torque: 1.2N m(12.8kgf cm)max
 Screw tightening torque: 1.6N m(16.9kgf cm)max
 The housing for the remote sensing unused is mounted on CN1
 Please connect safety ground to FG terminal on the unit.

PBA1500F

1500



Example recommended EMI/EMC filter NAC-20-472

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

*A higher current rating EMI/EMC filter

may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ①Series name ②Single output (3) Output wattage
- 4 Universal input
- 5 Output 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.

	990	1500	1500	1500	1500	1680	1692	1680
	3.3V 300A	5V 300A	7.5V 200A	12V 125A	15V 100A	24V 65A	36V 42A	48V 32A
*3	3.3V 300A	5V 300A	7.5V 200A	12V 125A	15V 100A	24V 70(105)A	36V 47(70)A	48V 35A

SPECIFICATIONS

	MODEL		PBA1500F-3R3						PBA1500F-36	PBA1500F-48		
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 370	0 (AC50 or DC70	Please refer to	the instruction r	nanual 7. option	* 5)			
		ACIN 100V	15typ	19typ								
	CURRENT[A]	ACIN 200V		10typ								
	FREQUENCY[Hz]		50/60 (47 - 63)									
		ACIN 100V	. ,	77typ	81typ	81typ	83typ	84typ	84typ	84typ		
NPUT	EFFICIENCY[%]	ACIN 200V		81typ	83typ	84typ	86typ	87typ	87typ	87typ		
NFOI			0.98typ (lo=100		Гозтур	очтур	оотур	Тоттур	ОТ ТУР	στιγρ		
	POWER FACTOR		0.95typ (lo=100									
			20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 10 sec. to re-start)									
	INRUSH CURRENT[A]											
		ACIN 200V	40/40typ (lo=100%) (Primary inrush current /Secondary inrush current) (More than 10 sec. to re-start) 0.9/1.5max (ACIN 100V/240V 60Hz, lo=100%, According to IEC62368-1, DENAN)									
	LEAKAGE CURRENT[I	mA]										
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48		
	CURRENT[A]	ACIN 100V		300	200	125	100	65	42	32		
	COMMENTIA	ACIN 200V *3	300	300	200	125	100	70(105)	47(70)	35		
	LINE REGULATION[m\		20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	ıV]	40max	40max	60max	100max	120max	150max	150max	300max		
	DIDDI E[m\/n n]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max		
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max		
DUTPUT	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]	*2		20max	30max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]			00/200V, lo=100								
	HOLD-UP TIME[ms]		71.	00/200V, Io=100°								
	OUTPUT VOLTAGE ADJUSTMEN	T RANGEIVI	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				00.00 07.11	10.00		
	OVERVOLTAGE PROTECT				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		
PROTECTION	OPERATING INDICATION		LED (Green)	VOT 1.0 2.0	VOT1.5 0.0	VOTZ.T T.0	VO+0.0 0.0	1014.0 0.0	VOT7.2 14.4	V014.0 12.0		
OTHERS	REMOTE SENSING	OIV	Provided									
	REMOTE ON/OFF		Provided									
	INPUT-OUTPUT · RC			outo Cutoff our	ent = 25mA, DC5	500V 50M 0 min	(At Doom Tomp	oroturo)				
	INPUT-FG				ent = 25mA, DC5							
SOLATION	OUTPUT · RC · AUX-F				t = 100mA, DC5							
	OUTPUT-RC · AUX	u			t = 100mA, DC5							
	OPERATING TEMP.,HUMID.AND	ALTITUDE			1"), 20 - 90%RH							
	STORAGE TEMP., HUMID. AND				n condensing) 9,			Juleet) max				
NVIRONMENT	VIBRATION	ALIIIUUE						wie				
				5Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis n/s ² (20G), 11ms, once each X, Y and Z axis								
	IMPACT	. 40 :1					LANI					
SAFETY AND		ENCY APPROVALS (At only AC input) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class B										
NOISE REGULATIONS		TOD.	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class									
LEGERIONS	HANNONIC ATTENDA	IUK	Complies with IEC61000-3-2 *7									
OTHERS	CASE SIZE/WEIGHT		178×61×268mm [7.01×2.4×10.55 inches] (without terminal block and screw) (W×H×D) /3.4kg max									
	COOLING METHOD Forced cooling (internal fan)											

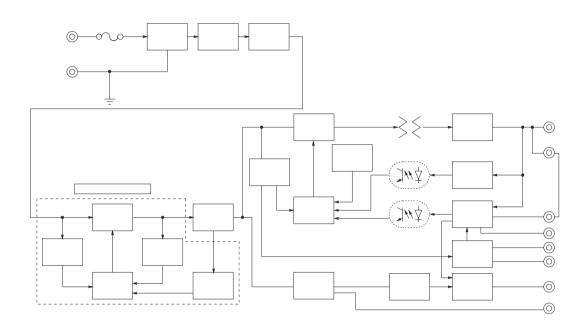
Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN

in detail.

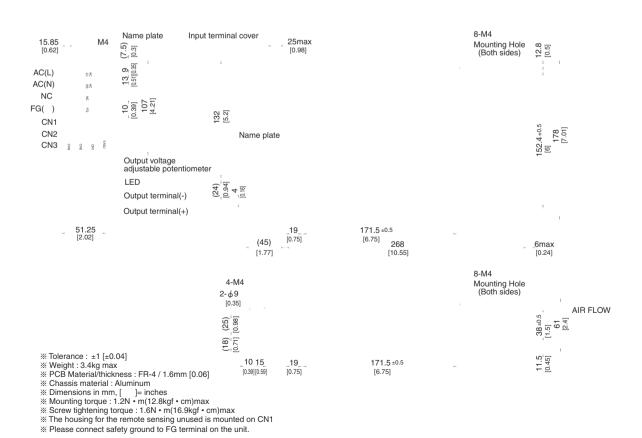
- Ripple and ripple noise is measured on measuring board with capacitor of 22 $\mu\,\text{F}$ within 150mm from the output terminal. *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. *3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- *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-22 January 06, 2023 www.cosel.co.jp/en/





External view



PBA1500T

A 1500 T -5



 Series name
 Single 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

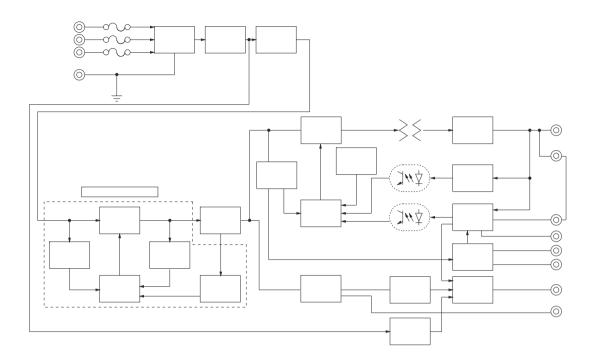
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

1500	1500	1680	1680
*3 5V 300A	12V 125A	24V 70(105)A	48V 35A

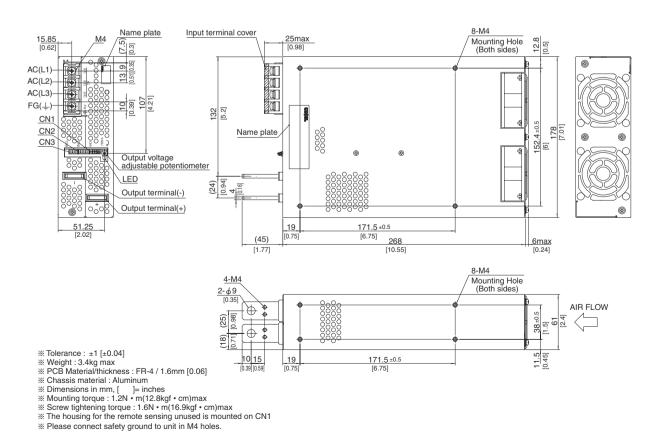
	MODEL		PBA1500T-5	PBA1500T-12	PBA1500T-24	PBA1500T-48			
	VOLTAGE[V]		AC170 - 264 3φ (AC100 Pleas	se refer to the instruction manua	I 7. option *5)				
	CURRENT[A]	ACIN 200V	6typ						
	FREQUENCY[Hz]		50/60 (47 - 63)						
INPUT	EFFICIENCY[%]	ACIN 200V	81typ	84typ	87typ	87typ			
	POWER FACTOR	ACIN 200V	0.95typ (Io=100%)			•			
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (Io=100%) (Primary in	nrush current /Secondary inrush	current) (More than 10 sec. to re	-start)			
	LEAKAGE CURRENT[r	nA]	1.5max (ACIN 240V 60Hz, Io=	100%, According to IEC62368-1	, DENAN)				
	VOLTAGE[V]		5	12	24	48			
	CURRENT[A]	ACIN 200V *3	300	125	70(105)	35			
	LINE REGULATION[m\	/]	20max	48max	96max	192max			
	LOAD REGULATION[m	ıV]	40max	100max	150max	300max			
	RIPPLE[mVp-p]	0 to +50°C *1	80max	120max	120max	150max			
	nierce[iiivp-p]	-20 - 0 °C *1	140max	160max	160max	400max			
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	150max	150max	200max			
OUTPUT	HIPPLE NOISE[IIIVP-P]	-20 - 0 °C *1	160max	180max	180max	500max			
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	120max	240max	480max			
	TEMPERATURE 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 les	s than 1 minute of applying input aga	ain from turning off the input voltage.			
	HOLD-UP TIME[ms]		20typ (ACIN 200V, Io=100%)						
	OUTPUT VOLTAGE ADJUSTMENT	FRANGE[V]	3.96 - 6.00	8.25 - 13.20	16.50 - 26.40	38.40 - 56.00			
	OUTPUT VOLTAGE SET	TING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96	48.00 - 49.92			
	OVERCURRENT PROT	ECTION	Works over 105% of rated curr	ent or 101% of peak current and	d 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	ON	LED (Green)			•			
OTHERS	REMOTE SENSING		Provided						
	REMOTE ON/OFF		Provided						
	INPUT-OUTPUT · RC		AC3,000V 1minute, Cutoff curr	ent = 25mA, DC500V 50M Ω mir	n (At Room Temperature)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff curr	ent = 25mA , DC500V $50\text{M}\Omega$ mir	n (At Room Temperature)				
ISOLATION	OUTPUT · RC · AUX-F0	G	AC500V 1minute, Cutoff currer	$nt = 100 mA$, DC500V 50M Ω min	(At Room Temperature)				
	OUTPUT-RC · AUX		AC500V 1minute, Cutoff currer	$nt = 100 \text{mA}, DC500V 50 M\Omega \text{min}$	(At Room Temperature)				
	OPERATING TEMP., HUMID. AND	ALTITUDE	-20 to +71°C (Refer to "Derating	g"), 20 - 90%RH (Non condensi	ng) 3,000m (10,000feet) max				
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (No	n condensing) 9,000m (30,000fe	eet) max				
ENVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3m	inutes period, 60minutes each a	long 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)	UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DE	N-AN				
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classI	B, VCCI-B, CISPR22-B, EN55011-	B, EN55022-B, additional EMI/EMC	Filter required for meeting class B			
OTHERS	CASE SIZE/WEIGHT	178×61×268mm [7.01×2.4×10.55 inches] (without terminal block and screw) (W×H×D) /3.4kg max							
OTHERS	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

S A CE UK **RoHS**









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

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

- ①Series name ②Dual output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *10
 C :with Coating
 - G:Low leakage current E:Low leakage current
 - and EMI class A
 - T: Vertical terminal block
 - J1 :VH (J.S.T.) connector type
- N :with Cover
- N1:with DIN rail
- V:Output voltage setting potentiometer external-

Cover is optional

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

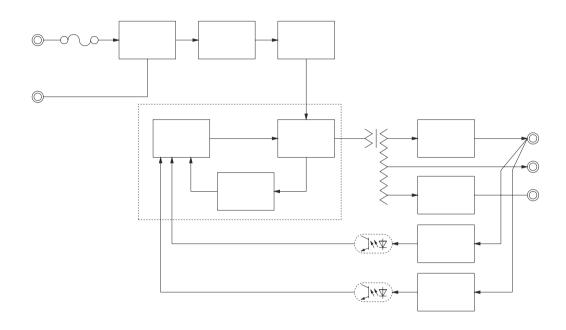
	*5	16.8	15.0
DC OUTPUT	VOLTAGE[V] *6	±12 (+24)	±15 (+30)
	CURRENT1[A]	0.7	0.5
	CURRENT2[A] *5	1.4	1.0

NRUSH CURRENT[A]		MODEL		PBW15F-12		PBW15F-15				
CURRENT A ACN 2007 ACN 2007 CURRENT		VOLTAGE[V]		AC85 - 264 1 φ or DC110 - 3	370 (AC50 or DC70 Please refer to	o the instruction manual 1.1 Inp	ut voltage *8)			
PREQUENCY[Hz] SO/60 (47 - 440) or DC		OUDDENTIAL	ACIN 100V	0.40typ (CURRENT1)			-			
Part ACIN 100V 741/p (CURRENT1) 781/p (CURRENT1) 801/p (CUR		CURRENT[A]	ACIN 200V	0.20typ (CURRENT1)						
NRUSH CURRENT() ACN 200V 77/p (CURRENT1) S0typ (CURRENT1) S0		FREQUENCY[Hz]								
NRUSH CURRENT ACM 2007 Style (CURRENT1) (At cold start)	INPUT	EEEIOIENOVIO/3	ACIN 100V	74typ (CURRENT1)		78typ (CURRENT1)				
INRUSH CURRENT[A]		ACIN 200V				71				
LEAKAGE CURRENT[m]										
LEAKAGE CURRENT[mA] 0.15/0.30max (ACIN 100V/240V 60Hz. lo=100%. According to IEC62368-1.DENAN)	INPUT INPUT INPUT III L V C C C C C C C C C C C C	INRUSH CURRENT[A]	ACIN 200V							
VOLTAGE[V]		LEAKAGE CURRENT[r				IEC62368-1,DENAN)				
CURRENT2 # 1.4							/ (+30V reference number)			
CURRENT2 A st 1.4					/ 0.7					
LINE REGULATION[mV] \$ \$ \$ \$ \$ \$ \$ \$ \$		CURRENT2[A] *5		1.4						
LOAD REGULATION 1 (mV)			/1 *19	60max	/ 96max		/ 96max			
COAD REGULATION 2 x x x x x x x x x										
RIPPLE(mVp-p)	ОИТРИТ					750max				
NOUTPUT RIPPLE NOISE mVp-p 10 - 0 C * 1 150 max					/ 240max		/ 240max			
RIPPLE NOISE[mVp-p]		RIPPLE[mVp-p]								
RIPPLE NOISE[mVp-p]										
TEMPERATURE REGULATION[mV] T		RIPPLE NOISE[mVp-p]								
IEMPERATURE REGULATION mV -10 to +50°C 150max 180max 180max 60max 57ART-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. lo=100%) 3.2 - 16.5 (+V and -V are simultaneously adjusted) 13.2 - 16.5 (+V and -V are simultaneously adjusted) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 16.8 - 24.0 20.0 - 29.0 20.0 - 20.0 20.0 - 20.0 20.0 - 20.0 20.0 - 20.0 20.0 - 20.0 20.0 - 20.0 20.0 -		0 to +50°C								
DRIFT[mV]		TEMPERATURE REGULATION[mV]								
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, lo=100%) 0UTPUT VOLTAGE ADJUSTMENT RANGE[V] 9.60 - 13.2 (+V and -V are simultaneously adjusted) 13.2 - 16.5 (+V and -V are simultaneously adjusted) OUTPUT VOLTAGE SETTING[V] 11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) OVERCURRENT PROTECTION Works over 105% of rated current and recovers automatically OVERVOLTAGE PROTECTION[V] 16.8 - 24.0 OPERATING INDICATION LED (Green) REMOTE ON/OFF None INPUT-OUTPUT AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT-FG AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT-FG AC2.000V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C, Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max		DRIFT[mV]								
HOLD-UP TIME[ms] 20typ (ACIN 100V, Io=100%)				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.						
OUTPUT VOLTAGE ADJUSTMENT RANGE[V] 9.60 - 13.2 (+V and -V are simultaneously adjusted) OUTPUT VOLTAGE SETTING[V] 11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) OVERCURRENT PROTECTION Works over 105% of rated current and recovers automatically OVERVOLTAGE PROTECTION UNder Setting INDICATION LED (Green) REMOTE ON/OFF None INPUT-OUTPUT AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) INPUT-FG AC5.00V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71℃ (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max										
OUTPUT VOLTAGE SETTING[V] 11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) OVERCURRENT PROTECTION Works over 105% of rated current and recovers automatically OVERVOLTAGE PROTECTION[V] 16.8 - 24.0 20.0 - 29.0 OPERATING INDICATION LED (Green) REMOTE ON/OFF None INPUT-OUTPUT AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) INPUT-FG AC5.00V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OUTPUT-FG AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10.000feet) max		OUTPUT VOLTAGE ADJUSTMENT	T RANGEIVI			13.2 - 16.5 (+V and -V are si	multaneously adjusted)			
OVERVOLTAGE PROTECTION V 16.8 - 24.0 20.0 - 29.0										
OPERATING INDICATION LED (Green)		OVERCURRENT PROT	ECTION	Works over 105% of rated cu	urrent and recovers automatically					
OPERATING INDICATION LED (Green)	PROTECTION	TEMPERATURE REGULATION[mV] DRIFT[mV] START-UP TIME[ms] HOLD-UP TIME[ms] OUTPUT VOLTAGE ADJUSTMENT RANGE[V OUTPUT VOLTAGE SETTING[V] OVERCURRENT PROTECTION OVERVOLTAGE PROTECTION[V] OPERATING INDICATION REMOTE ON/OFF INPUT-OUTPUT	TION[V]	16.8 - 24.0	,	20.0 - 29.0				
REMOTE ON/OFF None		OPERATING INDICATION	ON							
SOLATION INPUT-FG AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT-FG AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max STORAGE TEMP,HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max	OTTLING	REMOTE ON/OFF		None						
OUTPUT-FG AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max STORAGE TEMP,HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9.000m (30,000feet) max		INPUT-OUTPUT		AC3,000V 1minute, Cutoff cu	urrent = 10mA, DC500V 50MΩ mi	n (At Room Temperature)				
OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max STORAGE TEMP,HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max	ISOLATION	INPUT-FG								
STORAGE TEMP, HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max		OUTPUT-FG								
		OPERATING TEMP.,HUMID.AND	ALTITUDE							
NVIRUNMENT I	EN // DONINENT	STORAGE TEMP., HUMID. AND	ALTITUDE							
VIBRATION 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis	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		IMPACT								
	SAFETY AND	AGENCY APPROVALS (At only	/ AC input)			N-AN				
NOISE CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B	NOISE	CONDUCTED NOISE		Complies with FCC Part15 c	lassB, VCCI-B, CISPR22-B, EN55	011-B, EN55022-B				
REGULATIONS HARMONIC ATTENUATOR Complies with IEC61000-3-2 (Not built-in to active filter *7) *12	REGULATIONS	HARMONIC ATTENUAT	TOR	Complies with IEC61000-3-2	(Not built-in to active filter *7) *	12				
CASE SIZE/WEIGHT 31×78×85mm [1.22×3.07×3.35 inches] (without terminal block) (W×H×D) / 200g max (with cover: 235g max)	OTHERS	CASE SIZE/WEIGHT		31 × 78 × 85mm [1.22 × 3.07)	<3.35 inches] (without terminal blo	ock) (W×H×D) / 200g max (wi	th cover : 235g max)			
	OTHERS			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.

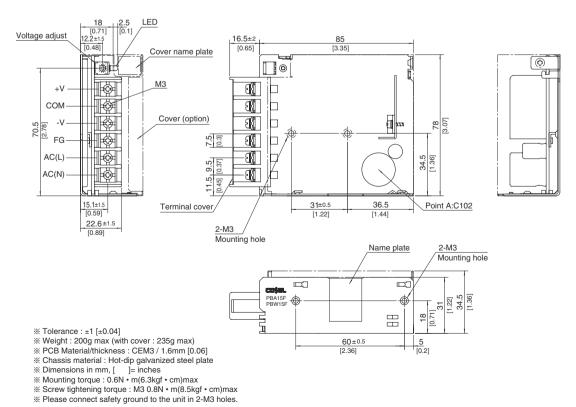
- *10 Please contact us about safety approvals for the model with option.
- *11 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from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



PBW30F

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.

- 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.

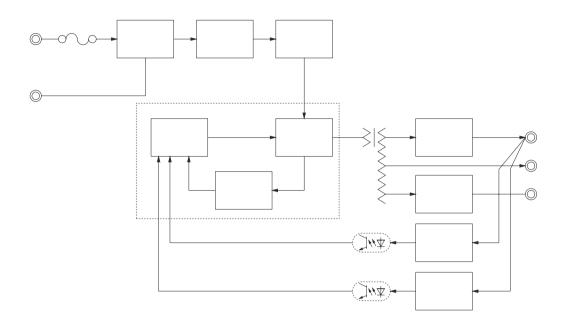
	*5	15	31.2	30.0
	VOLTAGE[V] *6	±5 (+10)	±12 (+24)	±15 (+30)
	CURRENT1[A]	1.5	1.3	1.0
	CURRENT2[A] *5	2.0	1.7	1.4

	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	al 1.1 Input voltage *8	3)		
		ACIN 100V	0.4tvp (CURRENT1)	0.7typ (CURRENT1))				
	CURRENT[A]	ACIN 200V	0.25typ (CURRENT1)							
	FREQUENCY[Hz]		50/60 (47 - 440) or DC							
INPUT	ACIN 100V		75typ (CURRENT1)		77typ (CURRENT1)		78typ (CURRENT1)			
	EFFICIENCY[%]	ACIN 200V	75typ (CURRENT1)		81typ (CURRENT1)		79typ (CURRENT1)			
			15typ (CURRENT1		7		,			
	INRUSH CURRENT[A]	ACIN 200V	30typ (CURRENT1) (At cold start)						
	LEAKAGE CURRENT[r	nA]	0.30/0.65max (ACII	N 100V/240V 60Hz, lo=	100%, According to I	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\	/I *19	20max	/ 36max	60max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1		250max	/ 100max	600max	/ 150max	600max	/ 150max		
ОИТРИТ	LOAD REGULATION 2			/ -	750max	/ -	750max	/ -		
		0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
	RIPPLE[mVp-p]		140max	/ 320max	160max	/ 320max	160max	/ 320max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
		-10 - 0°C *1	160max	/ 360max	180max	/ 360max	180max	/ 360max		
		0 to +50℃	50max		120max		150max			
	TEMPERATURE REGULATION[mV] -10 to +50℃		60max		150max		180max			
	DRIFT[mV]	*2	20max		48max	48max				
	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,	lo=100%)	,					
	OUTPUT VOLTAGE ADJUSTMENT	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)		simultaneously adjusted)		
	OUTPUT VOLTAGE SET	TING[V]	4.99 - 5.30 (+V and -V CURRENT1)		11.5 - 12.5 (+V and -V CURRENT1)		14.4 - 15.6 (+V and -V CURRENT1)			
	OVERCURRENT PROT	ECTION	Works over 105% of rated current and recovers automatically							
PROTECTION	OVERVOLTAGE PROTEC	TION[V]	6.90 - 10.0 16.8 - 24.0			20.0 - 29.0				
CIRCUIT AND 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. Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature)							
	OPERATING TEMP., HUMID. AND	ALTITUDE	-10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max							
ENVIRONMENT	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/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	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN							
NOISE	CONDUCTED NOISE		Complies with FCC	Part15 classB, VCCI-E	B, CISPR22-B, EN550)11-B, EN55022-B				
REGULATIONS	HARMONIC ATTENUAT	OR	Complies with IEC6	31000-3-2 (Not built-in t	o active filter *7) *12	2				
OTHERS	CASE SIZE/WEIGHT		31 x 78 x 103mm [1	.22 × 3.07 × 4.06 inches] (without terminal blo	ock) (W x H x D) / 270	g max (with cover : 31	0g max)		
UTHERS	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.

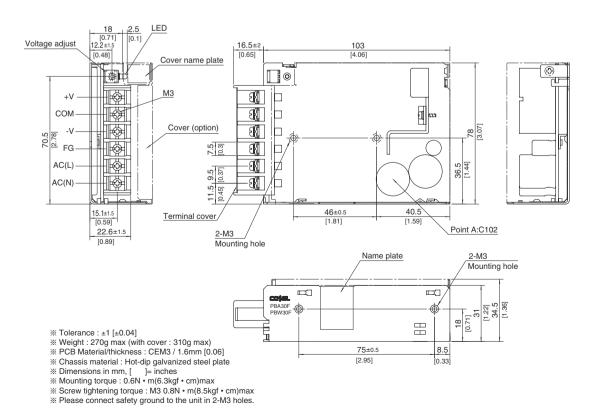
- *10 Please contact us about safety approvals for the model with option.
- *11 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from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



PBW50F

Ordering information

50



1) Series name 2) Dual output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *9
 C:with Coating

G:Low leakage current

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

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

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

R:with Remote ON/OFF

N :with Cover

N1:with DIN rail

V :Output voltage setting potentiometer external-

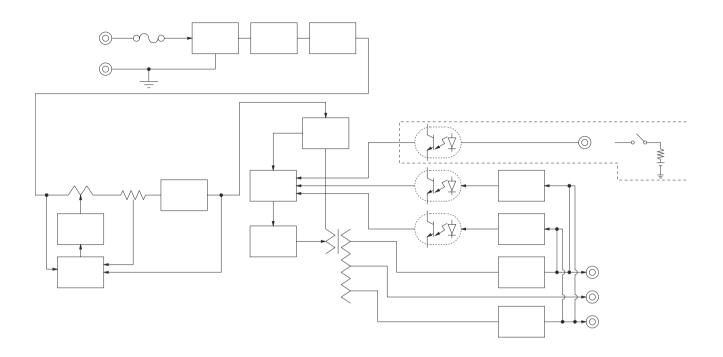
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

	MODEL		PBW50F-5		PBW50F-12		PBW50F-15			
	VOLTAGE[V]		AC85 - 264 1 φ or D	C120 - 370 (AC50 or	DC70 Please refer to t	he instruction manua	al 1.1 Input voltage *3	3)		
	OUDDENTIAL	ACIN 100V	0.45typ (CURRENT1))	0.70typ (CURRENT1)					
INPUT	CURRENT[A]	ACIN 200V	0.30typ (CURRENT1)		0.40typ (CURRENT1)					
	FREQUENCY[Hz]		50/60 (47 - 63)							
	ACIN 100V		76typ (CURRENT1)		81typ (CURRENT1)		81typ (CURRENT1)			
	EFFICIENCY[%]	ACIN 200V	77typ (CURRENT1)		83typ (CURRENT1)		83typ (CURRENT1)			
	POWER FACTOR(Io=100%)	ACIN 100V	0.98typ		0.99typ					
	POWER FACTOR(IO=100%)	ACIN 200V	0.87typ		0.93typ					
	INRUSH CURRENT[A]	ACIN 100V								
	INNUSH CURRENT[A]	ACIN 200V	30typ (CURRENT1) (Otyp (CURRENT1) (At cold start)						
	LEAKAGE CURRENT[r	nA]	0.40/0.75max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1,DENAN)							
	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	/ -	2.7	/ -	2.4	/-		
OUTPUT	LINE REGULATION[m\	/]	20max	/ 36max	48max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1	[mV] *4	250max	/ 100max	600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2	mV] *5	500max	/ -	750max	/ -	750max	/-		
	RIPPLE[mVp-p]	0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
	RIPPLE[IIIVP-p]	-10 - 0 °C *1	140max	/ 320max	160max	/ 320max	160max	/ 320max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
	HIPPLE NOISE[IIIVP-P]	-10 - 0 °C *1	160max	/ 360max	180max	/ 360max	180max	/ 360max		
	TEMPERATURE REGULATION[mV] 0 to +		50max		120max		150max			
	-10 to +50℃		60max		150max		180max			
	DRIFT[mV]	*2	20max 48max 60max							
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)							
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT				9.60 - 13.2 (+V and -V are		13.2 - 16.5 (+V and -V are 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)		
	OVERCURRENT PROT		Works over 105% of rated current and recovers automatically							
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC		6.90 - 10.0 20.0 - 29.0							
OTHERS	OPERATING INDICATION	ON	LED (Green)							
	REMOTE ON/OFF		Optional (Required external power source)							
	INPUT-OUTPUT · RC	*7								
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)							
	OUTPUT · RC-FG	*7	7 AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At Room Temperature)							
	OPERATING TEMP.,HUMID.AND									
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max							
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s ² (20G), 11r			***				
SAFETY AND	AGENCY APPROVALS (At only	AC input)			-1 Complies with DEN					
NOISE REGULATIONS	CONDUCTED NOISE				3, CISPR22-B, EN5501	1-B, EN55022-B				
HEGULATIONS	HARMONIC ATTENUAT	OR	Complies with IEC61		1 / 11	1) (11, 11, 15) (/ 111 ===			
OTHERS	CASE SIZE/WEIGHT			2 × 3.23 × 4.72 inches] (without terminal bloc	k) (W×H×D) / 280	g max (with cover : 32	5g max)		
	COOLING METHOD		Convection							

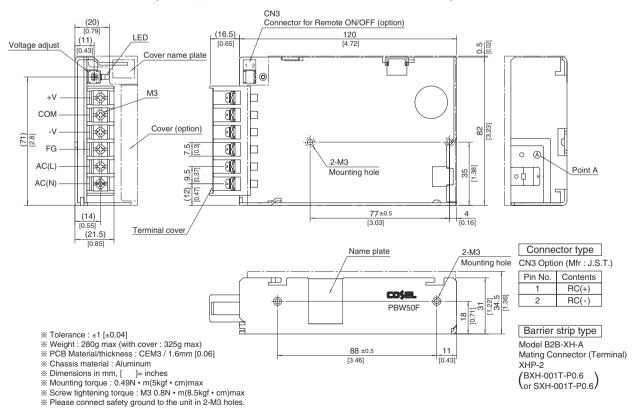
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN : RM101).
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *5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

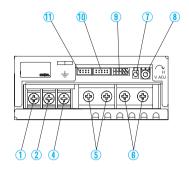
** External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



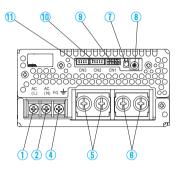
Terminal Blocks

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

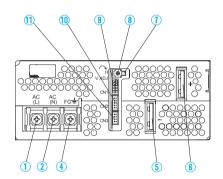
PBA300F



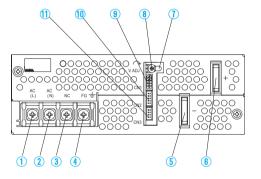
PBA600F



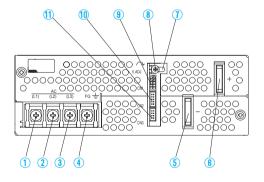
PBA1000F



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

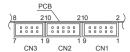
10CN2 Connectors

①CN3

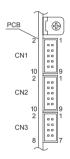


Terminal Blocks

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

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

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

Matching connecters and terminals on CN1, CN2 and CN3

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

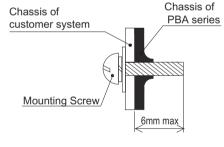
Assembling and Installation Method

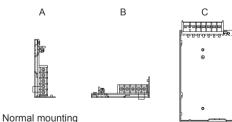
Installation Method

■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".



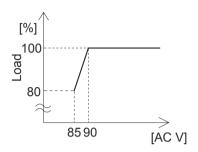


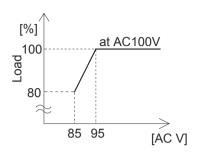
PBA300F, PBA600F, PBA1000F, PBA1500F and PBA1500T

- ■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.

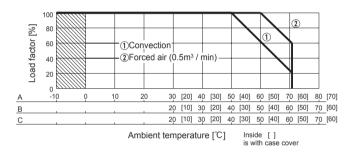
Derating

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

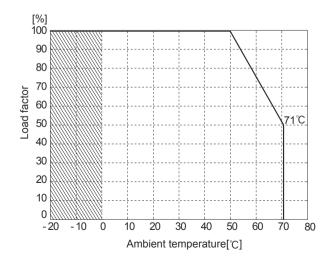




●PBA10F, PBA15F, PBW15F, PBA30F, PBW30F, PBA50F, PBW50F, PBA75F, PBA100F, PBA150F Ambient temperature derating curve



- ■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

PBA10F	Flyback converter	100	0.3		LF	CEM-3	Yes		Yes	*1
PBA15F	Flyback converter	100	0.4	250V 2.5A	Thermistor	CEM-3	Yes		Yes	*1
PBA30F	Flyback converter	100	0.7	250V 3.15A	Thermistor	CEM-3	Yes		Yes	*1
DDAFOE	Active filter	60 - 550	0.7	0501/ 04		0514.0	V			
PBA50F	Forward converter	130	0.7	250V 2A	Thermistor		Yes		Yes	*1
DD 4.755	Active filter	60 - 550	4.0			0514.0	V		\/	
PBA75F	Forward converter	120	1.0	050// 0.454	Thermistor	CEM-3	Yes		Yes	*1
DDA400E	Active filter	60 - 550	1.0	250V 3.15A	TI	OEMO	Yes		\/	
PBA100F	Forward converter	120	1.3		Thermistor	CEM-3			Yes	*1
DDA4505	Active filter	60 - 550	0.0	250V 4A	Thermistor	CEM-3	Yes		Voo	
PBA150F	Forward converter	120	2.0						Yes	*1
DDAGGE	Active filter	230		250V 10A	SCR	FR-4		V	V	Voo
PBA300F	Forward converter	330	4.1					Yes	Yes	Yes
DDACOOF	Active filter	130	0.0	050)/ 454	SCR	ED 4		V	V	\/
PBA600F	Forward converter	330	8.2	250V 15A	SCR			Yes	Yes	Yes
DD 44000E	Active filter	130	10		SCR	FR-4	Vo	V	s Yes	Voc
PBA1000F	Forward converter	280	13	250V 30A				Yes	Yes	Yes
DD 445005	Active filter	130	10	250V 30A	COD	ED 4		Vaa	Vaa	Vac
PBA1500F	Forward converter	200	19		SCR			Yes	Yes	Yes
DDA4500T	Active filter	130	0	050)/ 404	000			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
PBW50F	Active filter	60 - 550	0.7	250V 2A	Thermistor	CEM-3	\/		Voo	ata 4
FDVVOUF	Forward converter	130	0.7	250V 2A	THEITHISTOR	CEIVI-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.