

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

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

SPECIFICATIONS

	MODEL		PBA10F-5	PBA10F-12	PBA10F-24
	VOLTAGE[V]		AC85 - 264 1 \ or DC110 - 370 (AC5	0 or DC70 Please refer to the instructi	on manual 2.1 Input voltage *3)
		ACIN 100V	0.30typ (lo=100%)		
	CURRENT[A]	ACIN 200V	0.20typ (lo=100%)		
UTPUT EFF IPUT EFF INRI LEA VOI CUI LIN LOA RIP CUI LIN LOA RIP CUI TEMP BOLATION THERS AFETY AND OUT SOLATION INP OUT SOLATION INP OUT OUT OUT OUT OUT OUT OUT OUT OUT OUT	FREQUENCY[Hz]		50/60 (47 - 440) or DC		
IPUT		ACIN 100V	74typ	76typ	77typ
	EFFICIENCY[%]	ACIN 200V	74typ	76typ	77typ
		ACIN 100V	15typ (lo=100%)		
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%)		
	LEAKAGE CURREN	T[mA]	0.15/0.30max (ACIN 100V/240V 60Hz	, Io=100%, According to IEC60950-1,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
	RIPPLE[mVp-p]	0 to +50°C * 1	80max	120max	120max
	RIPPLE[mvp-p]	-10 - 0℃ *1	140max	160max	160max
		0 to +50°C *1	120max	150max	150max
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	180max	180max
		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, Io=100%) *Start-up time	e is 700ms typ for less than 1 minute of applyin	ig input again from turning off the input volt
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMEN	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	TECTION	Works over 105% of rated current and	recovers automatically	
	OVERVOLTAGE PROTEC	CTION[V]	5.75 - 7.00	15.0 - 18.0	30.0 - 37.0
	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	emperature)
OLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 1	0mA, DC500V 50M $_\Omega$ min (At Room Te	emperature)
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25r	mA, DC500V 50M Ω min (At Room Tem	nperature)
	OPERATING TEMP., HUMID.AND	O ALTITUDE	-10 to +71°C (Required Derating), 20	- 90%RH (Non condensing) 3,000m (1	0,000feet) max
	STORAGE TEMP., HUMID.AND	ALTITUDE	-20 to +75°C, 20 - 90%RH (Non conde	0	
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes p	eriod, 60minutes each along X, Y and	Z axis
	IMPACT		196.1m/s ² (20G), 11ms, once each X,	Y and Z axis	
AFETY AND	AGENCY APPROVALS (At onl	y AC input)	UL60950-1, C-UL(CSA60950-1), EN6	0950-1, EN50178 Complies with DEN-	AN
IOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VC		022-B
EGULATIONS	HARMONIC ATTENU	JATOR	Complies with IEC61000-3-2 (Not built	t-in to active filter *4) *7	
	CASE SIZE/WEIGHT	-	31 × 78 × 68mm [1.22 × 3.07 × 2.68 inc	hes] (without terminal block) (W×H×I	D) / 150g max (with cover : 180g ma
/IIIEng	COOLING METHOD		Convection		

Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN *1 :RM101).

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.

*4 When two or more units are used, they may not comply with the harmonic attenuator. Please contact us for details.

*5 Please contact us about safety approvals for the model with option.

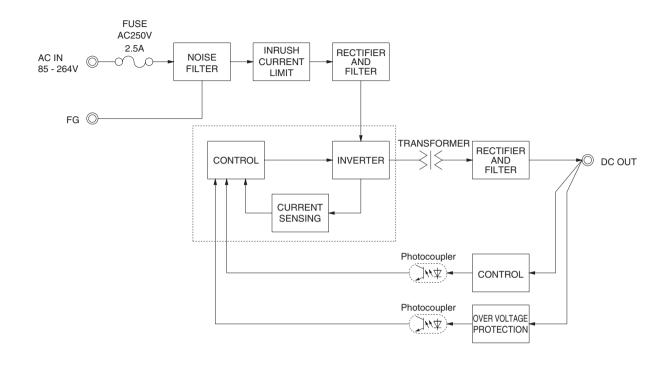
*6 Please contact us about dynamic load and input response.
*7 Please contact us about class C.

* Parallel operation with other model is not possible.

* *

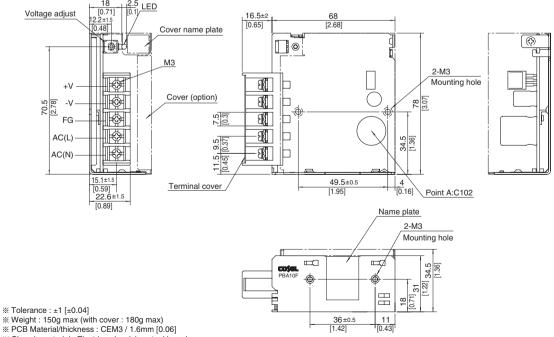
Derating is required when operated with cover. A sound may occur from power supply at peak loading.

Block diagram



External view

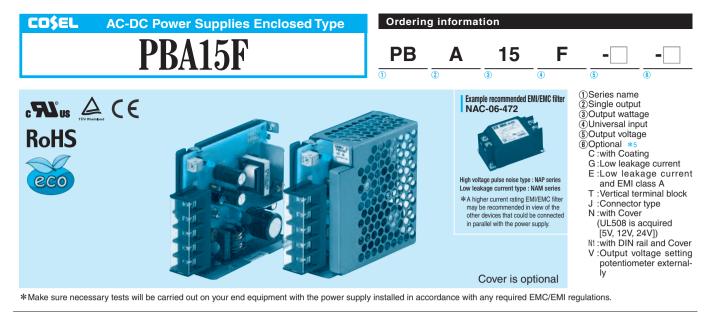
% External size of option T,J,N,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



- % Chassis material : Electric galvanizing steel board

- Dimensions in mm, []= inches
 Mounting torque : 0.6N m(6.3kgf cm)max
 Screw tightening torque : M3 0.8N m(8.5kgf cm)max

% Please connect safety ground to the unit in 2-M3 holes.



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

	MODEL		PBA15F-3R3	PBA15F-5	PBA15F-9	PBA15F-12	PBA15F-15	PBA15F-24	PBA15F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to t	he instruction ma	nual 2.1 Input vo	oltage *3)
OUTPUT INPUT EF INF LE VO CU INF LE VO CU LIN LO CU LIN LO CU LIN LO RIF ST HO OUTPUT RIF ISOLATION OV PROTECTION OV PROTECTION OV PROTECTION OV CIRCUIT AND OV PROTECTION OV CIRCUIT AND OV ENVIRONMENT STO VIE IMM SAFETY AND AGE REGULATIONS HA OTHERS CO REGULATIONS CO CO CO CO CO CO CO CO CO CU CU CU CU CU CU CU CU CU CU		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					
		ACIN 100V	68typ	74typ	75typ	75typ	77typ	75typ	75typ
	EFFICIENCY[%]	ACIN 200V	68typ	75typ	77typ	78typ	80typ	78typ	78typ
		ACIN 100V	15typ (lo=100%) (At cold start)	1				
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At cold start)					
	LEAKAGE CURREN	T[mA]	0.15/0.30max (/	ACIN 100V/240V	60Hz, lo=100%,	According to IE	C60950-1,DENA	N)	
	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℃ *1	80max	80max	120max	120max	120max	120max	150max
	RIPPLE[mvp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max
OUTPUT INPUT EF INPUT EF INPUT EF FF INPUT EF INPUT INPUT EF INPUT INPUT EF INPUT INPUT EF INPUT INPUT EF INPUT INPUT EF INPUT IN	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max
		0 to +50℃	50max	50max	90max	120max	150max	240max	480max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	290max	600max
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max
	START-UP TIME[ms]		200typ(ACIN 100V	, lo=100%) *Start-u	up time is 700ms typ	o for less than 1min	ute of applying input	again from turning	off the input volt
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	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 - 49.9
	OVERCURRENT PROT	ECTION	Works over 105	% of rated currer	nt and recovers a	automatically			
	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
	OPERATING INDICA	TION	LED (Green)						
	REMOTE ON/OFF		None						
	INPUT-OUTPUT		AC3,000V 1min	ute, Cutoff currer	nt = 10mA, DC50)0V 50M Ω min (A	At Room Tempera	ature)	
SOLATION	INPUT-FG		AC2,000V 1min	ute, Cutoff currer	nt = 10mA, DC50)0V 50M $_{\Omega}$ min (A	At Room Tempera	ature)	
	OUTPUT-FG		AC500V 1minut	e, Cutoff current	= 25mA, DC500	V 50MΩmin (At	Room Temperate	ure)	
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +71℃ (R	equired Derating), 20 - 90%RH (I	Non condensing)	3,000m (10,000	feet) max	
	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 2	0 - 90%RH (Non	condensing) 9,0	00m (30,000feet)	max		
	VIBRATION		10 - 55Hz, 19.6	m/s² (2G), 3min	utes period, 60m	inutes each alon	g X, Y and Z axi	s	
	IMPACT		196.1m/s² (20G), 11ms, once ea	ach X, Y and Z a	xis			
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-U	JL(CSA60950-1),	EN60950-1, EN	50178 Complies	with DEN-AN		
OISE	CONDUCTED NOISE		Complies with F	CC Part15 class	B, VCCI-B, CISF	R22-B, EN5501	1-B, EN55022-B		
REGULATIONS	HARMONIC ATTENU	JATOR	Complies with I	EC61000-3-2 (No	ot built-in to activ	e filter *4) *7			
	CASE SIZE/WEIGHT		31 x 78 x 85mm	[1.22×3.07×3.3	35 inches] (witho	ut terminal block	(WXHXD) / 2	00g max (with co	over : 235g ma
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. *3 Derating is required.

*4 When two or more units are used, they may not comply with the harmonic attenuator. Please contact us for details.

Please contact us about safety approvals for the model with option.

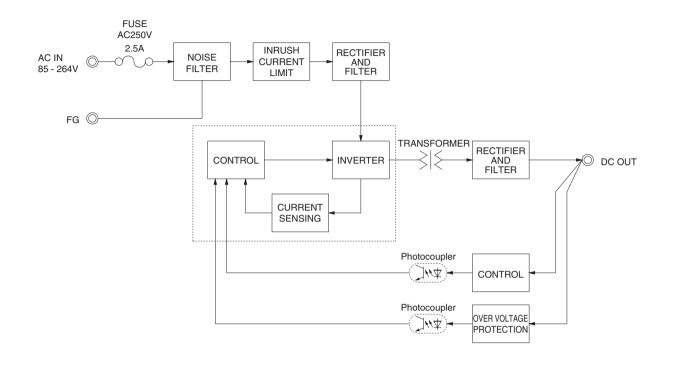
*6 Please contact us about dynamic load and input response. *7 Please contact us about class C.

*

Parallel operation with other model is not possible. *

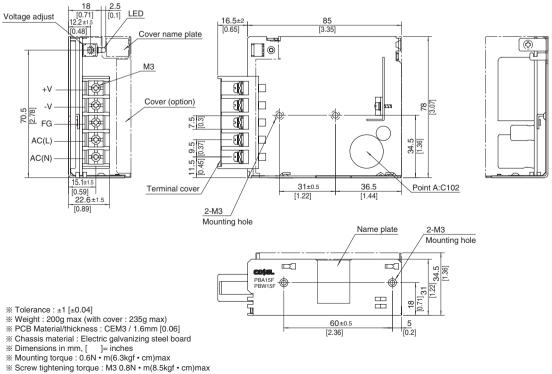
Derating is required when operated with cover. A sound may occur from power supply at peak loading.

Block diagram

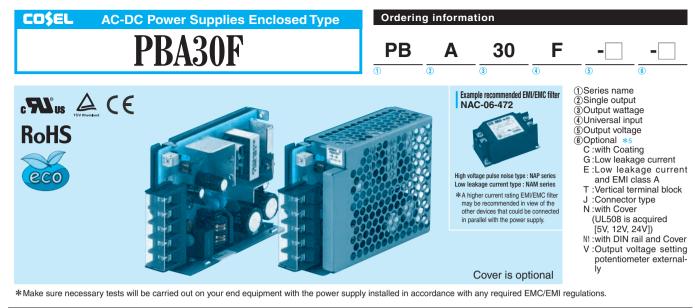


External view

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



* Please connect safety ground to the unit in 2-M3 holes.



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

	MODEL		PBA30F-3R3	PBA30F-5	PBA30F-9	PBA30F-12	PBA30F-15	PBA30F-24	PBA30F-48
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370	(AC50 or DC70	Please refer to t	he instruction ma	anual 2.1 Input vo	oltage *3)
OUTPUT INPUT EF INF LE VO CU FR INF LE VO CU CU LIN LO RII OUTPUT RIF TEM DF ST HO OUTPUT RIF ISOLATION OV CIRCUIT AND OF ENVIRONMENT SAFETY AND AGE NOISE REGULATIONS HA OTHERS CA OTHERS CA		ACIN 100V	0.50typ (lo=100%)	0.70typ (lo=100	%)				
	CURRENT[A]	ACIN 200V	0.30typ (lo=100%)	0.40typ (lo=100	1%)				
	FREQUENCY[Hz]		50/60 (47 - 440)	or DC					
		ACIN 100V	68typ	74typ	75typ	76typ	78typ	78typ	79typ
	EFFICIENCY[%]	ACIN 200V	69typ	77typ	77typ	78typ	81typ	81typ	81typ
		ACIN 100V	15typ (lo=100%) (At cold start)					
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%) (At cold start)					
	LEAKAGE CURREN	T[mA]	0.30/0.65max (A	CIN 100V/240V	60Hz, lo=100%,	According to IE	C60950-1,DENA	N)	
	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
		0 to +50°C * 1	80max	80max	120max	120max	120max	120max	150max
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max
UTPUT	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max
INPUT EI INPUT EI INPUT EI IN C C LL LL LL R R C C C LL LL LL R R C C C C		0 to +50℃	50max	50max	90max	120max	150max	240max	480max
	TEMPERATURE REGULATION[mV]		60max	60max	120max	150max	180max	290max	600max
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max
	START-UP TIME[ms]		200typ(ACIN 100V	lo=100%) *Start-u	up time is 700ms ty	p for less than 1min	ute of applying input	again from turning	off the input volta
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=100%)	· · · ·				
	OUTPUT VOLTAGE ADJUSTMEN	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 - 49.9
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	nt and recovers a	automatically			•
	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
	OPERATING INDICA	TION	LED (Green)						
Ento	REMOTE ON/OFF		None						
	INPUT-OUTPUT		AC3,000V 1min	ute, Cutoff currer	nt = 10mA, DC50	00V 50MΩmin (A	At Room Tempera	ature)	
OLATION	INPUT-FG		AC2,000V 1min	ute, Cutoff currer	nt = 10mA, DC50	$00V 50M\Omega$ min (A	At Room Tempera	ature)	
	OUTPUT-FG		AC500V 1minut	e, Cutoff current	= 25mA, DC500	V 50MΩmin (At	Room Temperati	ure)	
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +71℃ (R	equired Derating), 20 - 90%RH (I	Non condensing)	3,000m (10,000	feet) max	
	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20) - 90%RH (Non	condensing) 9,0	00m (30,000feet)	max		
WIRONMENT	VIBRATION		10 - 55Hz, 19.6	m/s² (2G), 3min	utes period, 60m	ninutes each alon	g X, Y and Z axi	is	
	IMPACT		196.1m/s ² (20G), 11ms, once ea	ach X, Y and Z a	xis	-		
	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-L	JL(CSA60950-1),	EN60950-1, EN	50178 Complies	with DEN-AN		
OISE	CONDUCTED NOISE		Complies with F	CC Part15 class	B, VCCI-B, CISF	PR22-B, EN5501	1-B, EN55022-B		
EGULATIONS	HARMONIC ATTENU	JATOR		EC61000-3-2 (No					
TUEDO	CASE SIZE/WEIGHT		31 x 78 x 103mr	n [1.22 × 3.07 × 4	.06 inches] (with	out terminal bloc	k) (W×H×D) / 2	270g max (with c	over : 310g ma
JINERS	COOLING METHOD		Convection	-				2	

Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN *1 :RM101).

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.

*4 When two or more units are used, they may not comply with the harmonic attenuator. Please contact us for details.

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*6 Please contact us about dynamic load and input response.
*7 Please contact us about class C.

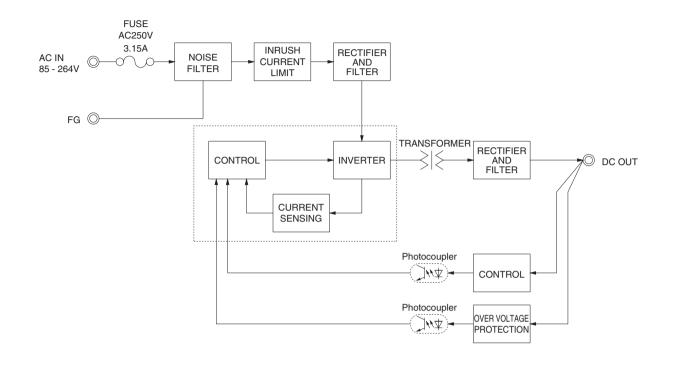
* Parallel operation with other model is not possible

*

Derating is required when operated with cover. A sound may occur from power supply at peak loading. *

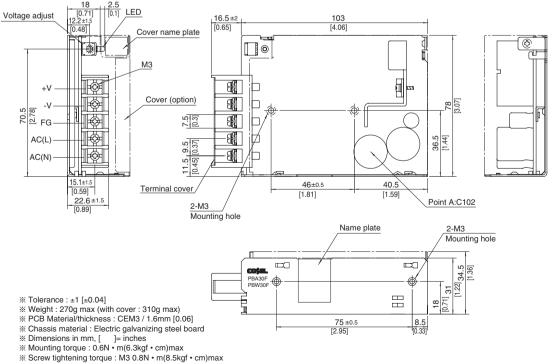
PBA30F | CO\$EL

Block diagram

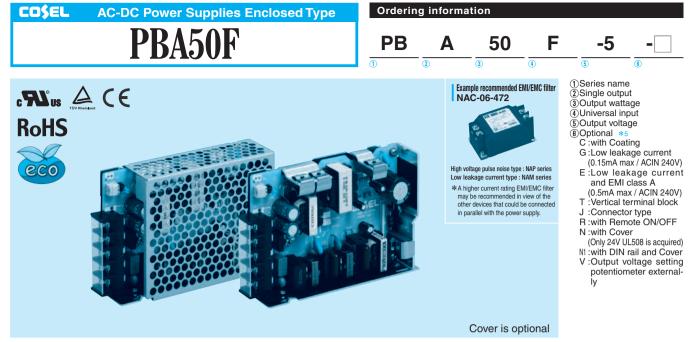


External view

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



* Please connect safety ground to the unit in 2-M3 holes.



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

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

SPECIFICATIONS

	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	0 Please refer to	the instruction i	nanual 2.1 Input	voltage *4)	
		ACIN 100V	0.5typ	0.7typ						
OUTPUT PROTECTION PROTECTION CU PROTECTION OUTPUT PROTECTION CIRCUIT AND OTHERS ENVIRONMENT SAFETY AND RIF IMI SAFETY AND CA OTHERS CA OTHERS CA	CURRENT[A]	ACIN 200V	0.3typ	0.4typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
		ACIN 100V	75typ	80typ	79typ	80typ	81typ	82typ	83typ	83typ
NPUT	EFFICIENCY[%]	ACIN 200V	76typ	82typ	81typ	82typ	83typ	84typ	85typ	85typ
	POWER FACTOR(lo=100%)	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR(10=100%)	ACIN 200V	0.87typ	0.93typ						
	INRUSH CURRENT[A]	ACIN 100V	15typ (lo=100%	b) (At cold start)						
		ACIN 200V	30typ (lo=100%	b) (At cold start)						
	LEAKAGE CURRENT[I	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%	, According to IE	C60950-1,DENA	N)		
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48
	CURRENT[A]		10	10	5.6	4.3	3.5	2.2	1.4	1.1
	LINE REGULATION[m]		20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m	ιV]	40max	40max	100max	100max	120max	150max	240max	240max
	RIPPLE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[IIIvp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max	250max
OUTPUT INPUT PO INPUT PO INPUT PO IN IN IN IN IN IN IN IN IN IN	RIPPLE NOISE[IIIVP-P]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max
	TEMPERATURE REGULATION(mV)	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max
	START-UP TIME[ms]		350typ(ACIN 1	00V, lo=100%)						
	HOLD-UP TIME[ms]		20typ (ACIN 10	0V, lo=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	35.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 10	5% of rated curr	ent and recover	s automatically				
	OVERVOLIAGE 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
	OPERATING INDICATION	ON	LED (Green)							
	REMOTE ON/OFF			ired external po						
	INPUT-OUTPUT · RC	*3				500V 50M Ω min				
SOLATION	INPUT-FG					500V 50MΩmin				
	OUTPUT · RC-FG	*3				500V 50M Ω min				
	OPERATING TEMP.,HUMID.AND	-				(Non condensin		00feet) max		
	STORAGE TEMP.,HUMID.AND	ALTITUDE			<u>0</u> .	,000m (30,000fe				
	VIBRATION					Ominutes each al	ong X, Y and Z a	axis		
	IMPACT			à), 11ms, once e						
	AGENCY APPROVALS (At only	y AC input)				EN50178 Complie				
	CONDUCTED NOISE					SPR22-B, EN550)11-B, EN55022-	·B		
REGULATIONS	HARMONIC ATTENUAT	FOR		EC61000-3-2						
OTHERS	CASE SIZE/WEIGHT			m [1.22 x 3.23 x	4.72 inches] (wi	thout terminal blo	ock) (W×H×D)	/ 280g max (wit	n cover : 325g m	ax)
	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. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and *2

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

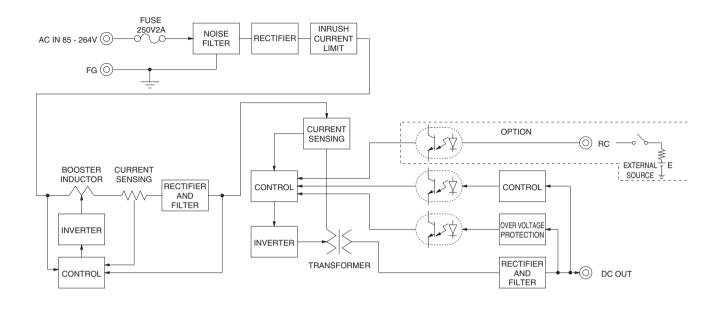
* Parallel operation with other model is not possible.

Derating is required when operated with cover.

* A sound may occur from power supply at peak loading.

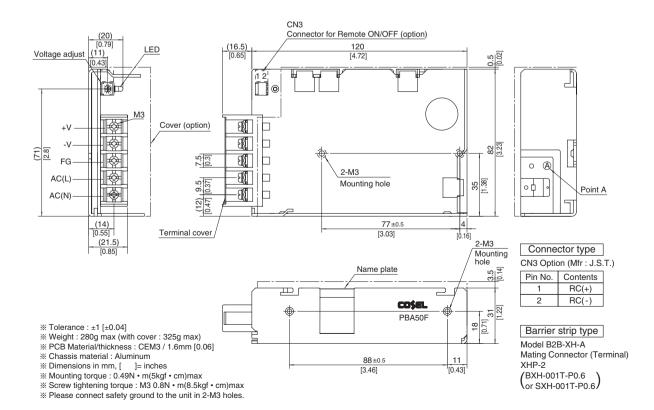
*4 Derating is required.

PBA50F | CO\$EL



External view

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



CO\$EL AC-DC Power Supplies Enclosed Type	Ordering	informa	tion			
PBA75F	PB	A	75	F	-5	•
<image/> <image/> <image/> <section-header><section-header><image/></section-header></section-header>		High vo Low le: *A hij othe	Itage pulse noise type akage current type : I gher current traing EL be recommended in raralel with the power	NAP series VAM series N/EMC filter view of the e connected	(0.15mA i E :Low le and EM (0.5mA n T :Vertical J :Connec R :with Re N :with Co (Only 24V Ni :with DII V :Output	but ttage nput tage es5 ating kage current nax / ACIN 240V) Akage current I class A nax / ACIN 240V) terminal block tor type mote ON/OFF
			Cover is op	tional		

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

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

SPECIFICATIONS

	MODEL		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	0 Please refer to	the instruction r	nanual 2.1 Input	voltage *4)	
		ACIN 100V	0.7typ	1.0typ						
	CURRENT[A]	ACIN 200V		0.5typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
		ACIN 100V	77typ	81typ	80typ	81typ	82typ	83typ	84typ	84typ
NPUT	EFFICIENCY[%]	ACIN 200V	78typ	83typ	82typ	83typ	84typ	85typ	86typ	86typ
		ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR(Io=100%)	ACIN 200V	0.87typ	0.93typ						
		ACIN 100V	15typ (lo=100%	b) (At cold start)						
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%	b) (At cold start)						
	LEAKAGE CURRENT[r	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%	, According to IE	C60950-1,DENA	N)		
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48
	CURRENT[A]		15	15	8.4	6.3	5	3.2	2.1	1.6
	LINE REGULATION[m	/]	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m		40max	40max	100max	100max	120max	150max	240max	240max
		0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-10 - 0℃ *1	140max	140max	160max	160max	160max	160max	200max	200max
		0 to +50°C * 1	120max	120max	150max	150max	150max	150max	250max	250max
OUTPUT INPUT PO INPUT PO INPUT PO IN IN IN IN IN IN IN IN IN IN	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max
		0 to +50°C	50max	50max	90max	120max	150max	240max	360max	480max
	TEMPERATURE REGULATION[mV]	-10 to +50°C	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	0V, lo=100%)						
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 10	5% of rated curre	ent and recovers	automatically			·	·
	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
THERS	OPERATING INDICATION	ON	LED (Green)						·	
	REMOTE ON/OFF		Optional (Requ	ired external pov	wer source)					
	INPUT-OUTPUT · RC	*3	AC3,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)		
SOLATION	INPUT-FG		AC2,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50M Ω min	(At Room Temp	erature)		
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	500V 50MΩmin	At Room Tempe	rature)		
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (F	Required Deratin	g), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	00feet) max		
	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 2	0 - 90%RH (Nor	n condensing) 9	000m (30,000fee	et) max			
	VIBRATION		10 - 55Hz, 19.6	6m/s² (2G), 3mi	nutes period, 60	minutes each ale	ong X, Y and Z a	axis		
	IMPACT		196.1m/s ² (200	a), 11ms, once e	ach X, Y and Z	axis				
AFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-	JL(CSA60950-1), EN60950-1, E	N50178 Complie	es with DEN-AN			
IOISE	CONDUCTED NOISE		Complies with	FCC Part15 clas	sB, VCCI-B, CI	SPR22-B, EN550	11-B, EN55022-	B		
EGULATIONS	HARMONIC ATTENUAT	FOR	Complies with	EC61000-3-2 *	6					
	CASE SIZE/WEIGHT		32 x 82 x 135m	m [1.26 x 3.23 x	5.31 inches] (wi	hout terminal blo	ock) (W×H×D)	350g max (wit	h cover : 400g m	ax)
JIIIENJ	COOLING METHOD		Convection							

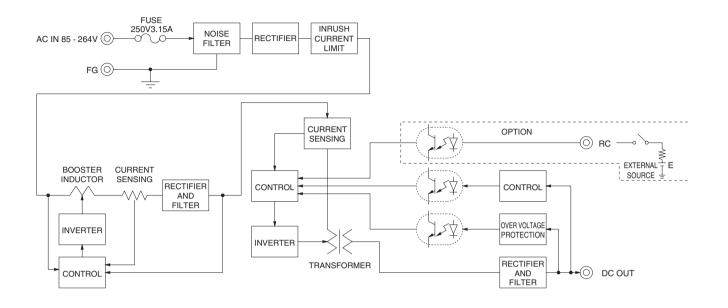
*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).

2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
 *3 Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and FG.

*4 Derating is required.

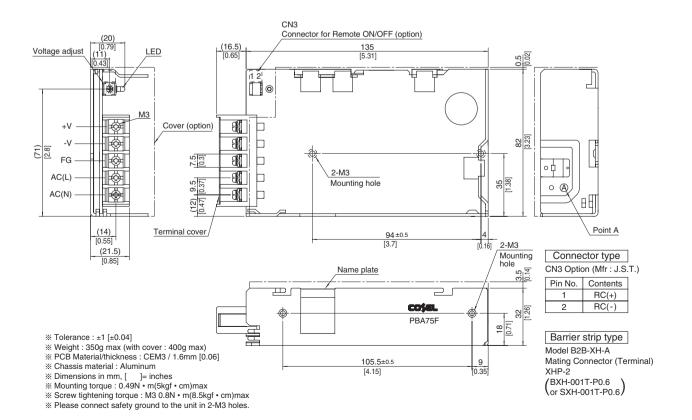
*5 Please contact us about safety approvals for the model with option.
*6 Please contact us about class C.
* Parallel operation with other model is not possible.
* Derating is required when operated with cover.
* A sound may occur from power supply at peak loading.

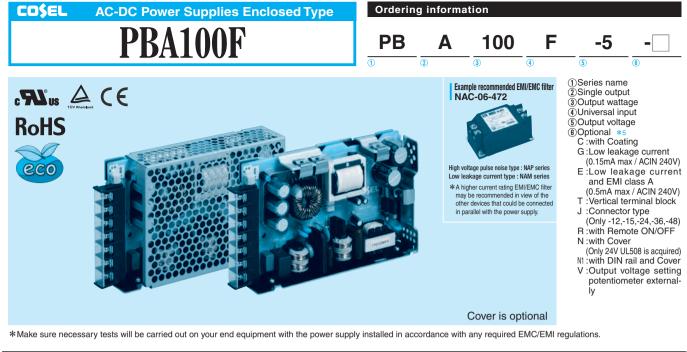




External view

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





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

	MODEL		PBA100F-3R3	PBA100F-5	PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48		
	VOLTAGE[V]		AC85 - 264 1 φ or DC120 - 370 (AC50 or DC70 Please refer to the instruction manual 2.1 Input voltage *4)									
	CURRENT[A] ACIN 100V ACIN 200V		0.9typ	1.3typ								
	FREQUENCY[Hz]		50/60 (47 - 63)									
INPUT	EFFICIENCY[%]	ACIN 100V	77typ	82typ	80typ	81typ	83typ	84typ	84typ	84typ		
		ACIN 200V	79typ	84typ	82typ	83typ	86typ	86typ	86typ	86typ		
	POWER FACTOR(lo=100%)	ACIN 100V	0.98typ	0.99typ								
		ACIN 200V										
		ACIN 100V		20typ (lo=100%) (At cold start)								
	INRUSH CURRENT[A]		40typ (lo=100%) (At cold start)									
	LEAKAGE CURRENT[mA]		0.4/0.75max (ACIN 100V/240V 60Hz, Io=100%, According to IEC60950-1,DENAN)									
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48		
ουτρυτ	CURRENT[A]		20	20	10.5	8.5	7	4.5	2.8	2.1		
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	IV]	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[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		
	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max		
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	FRANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0		
	OUTPUT VOLTAGE SET	TING[V]	3.20 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92		
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curr	ent and recovers	automatically						
PROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0		
CIRCUIT AND	OPERATING INDICATION		LED (Green)									
OTHERS	REMOTE SENSING		Optional (Only -3R3, -5 Option -K)									
	REMOTE ON/OFF		Optional (Required external power source)									
	INPUT-OUTPUT · RC	*3	a AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature)									
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature)									
	OUTPUT · RC-FG *3		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature)									
	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +71°C (Required 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									
	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)		UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN									
OISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
REGULATIONS	HARMONIC ATTENUATOR		Complies with IEC61000-3-2 *6									
OTHERS	CASE SIZE/WEIGHT		32×93×147mm [1.26×3.66×5.79 inches] (without terminal block) (W×H×D) / 440g max (with cover : 500g max)									
JINENS	COOLING METHOD		Convection									

ured 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. Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and *2

*3 FG.

*4 Derating is required.

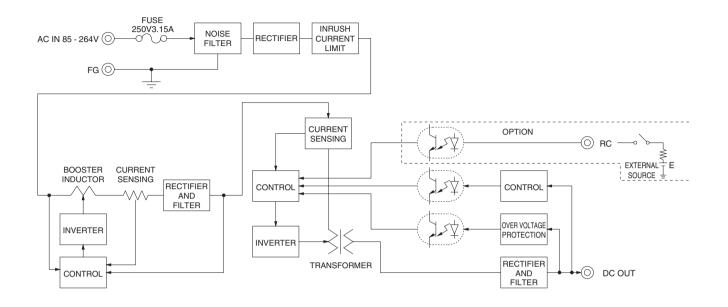
lease contact us about safety approvals for the model with option. *6 Please contact us about class C.

* Parallel operation with other model is not possible.

* Derating is required when operated with cover.

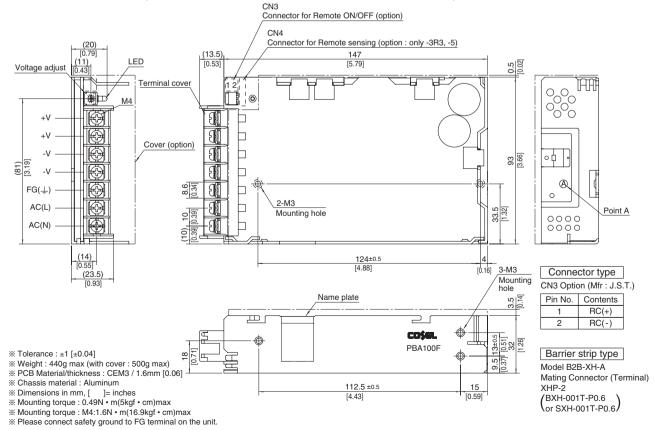
* A sound may occur from power supply at peak loading.

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External view





	Enclosed Type Ordering information					
PBA150F	PB ^①	A	<u>3</u>	F	-5	•
<image/> <image/> <section-header></section-header>		High Low *A ma ott	AC-06-472 Woldage pulse noise types violage guisen orise	e : NAP series :NAM series :M/EMC filter : view of the be connected r supply:	(0.15mA i E :Low le and EM (0.5mA n T :Vertical J :Connec (Only -12 R :with Re N :with Re N :with Co (Only 24V NI :with DIN V :Output	but tage nput iage to ating kage current nax / ACIN 240V) akage current I class A nax / ACIN 240V) terminal block tor type ,-15,-24,-36,-48) mote ON/OFF

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

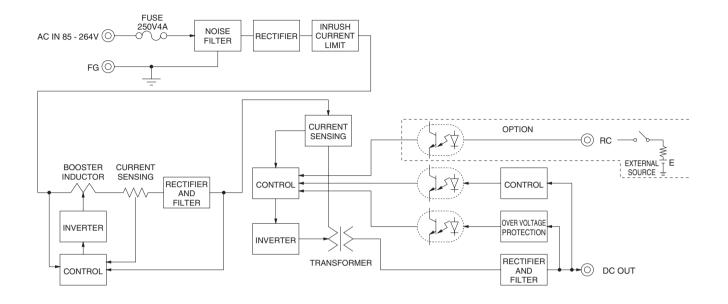
	MODEL		PBA150F-3R3	PBA150F-5	PBA150F-9	PBA150F-12	PBA150F-15	PBA150F-24	PBA150F-36	PBA150F-48	
	VOLTAGE[V]		AC85 - 264 1 ϕ or DC120 - 370 (AC50 or DC70 Please refer to the instruction manual 2.1 Input voltage *4)								
INPUT	CURRENT[A] ACIN 100V ACIN 200V		1.3typ 2.0typ								
			0.7typ	1.0typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EFFICIENCY[%]	ACIN 100V	80typ	83typ	82typ	83typ	84typ	85typ	85typ	85typ	
		ACIN 200V	82typ	86typ	85typ	86typ	87typ	88typ	88typ	88typ	
	POWER FACTOR(lo=100%)	ACIN 100V	0.98typ	0.99typ							
		ACIN 200V									
	INRUSH CURRENT[A]		20typ (lo=100%								
		ACIN 200V									
	LEAKAGE CURRENT[mA]		0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%	, According to IE	C60950-1,DENA	N)			
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48	
OUTPUT	CURRENT[A]		30	30	16.7	13	10	6.5	4.3	3.3	
	LINE REGULATION[mV]		20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	IV]	40max	40max	100max	100max	120max	150max	240max	240max	
	RIPPLE[mVp-p] RIPPLE NOISE[mVp-p]	0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max	
		-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	
		-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max	
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max	
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max	
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max	
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)								
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)								
	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	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 curr	ent and recover:	s 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	
	OPERATING INDICATION		LED (Green)								
OTHERS	REMOTE SENSING		Optional (Only -3R3, -5 Option -K)								
	REMOTE ON/OFF		Optional (Required external power source)								
	INPUT-OUTPUT · RC	*3	$_3$ AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature)								
ISOLATION	INPUT-FG		AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature)								
	OUTPUT · RC-FG *3		$_3$ AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (At Room Temperature)								
	OPERATING TEMP.,HUMID.AND ALTITUDE										
ENVIRONMENT	STORAGE TEMP., HUMID.AND ALTITUDE										
	VIBRATION		10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s ² (20G), 11ms, once each X, Y and Z axis								
SAFETY AND	AGENCY APPROVALS (At only AC input)										
NOISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
REGULATIONS	HARMONIC ATTENUATOR		Complies with IEC61000-3-2 *6								
OTHERS	CASE SIZE/WEIGHT		34×93×168mm [1.34×3.66×6.61 inches] (without terminal block) (W×H×D) / 560g max (with cover : 630g max)								
JIILIO	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 Applicable when Remote ON/OFF(optional) is added. RC is insulated with input, output and FG.
*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.

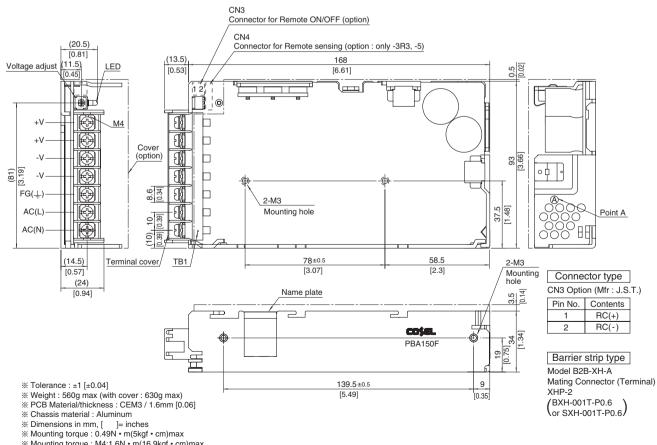
PBA/PBW-14

PBA150F | COSEL



External view

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



Mounting torque : M4:1.6N • m(16.9kgf • cm)max
 Keep drawing current per pin below 20A for TB1.
 Please connect safety ground to FG terminal on the unit.