# COSEL 科索 PBA300F-24 PDF



# 深圳创唯电子有限公司

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AC-DC Power Supplies Enclosed Type



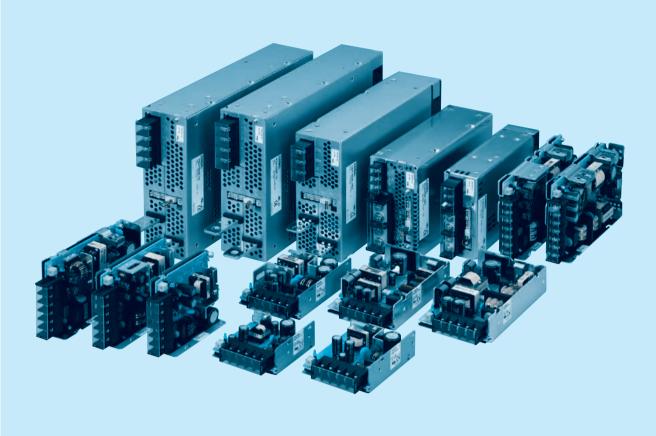








# **PBA, PBW-series**



#### Feature

Small-size & light weight

Harmonic attenuator (Complies with IEC61000-3-2) : except PBA1500T Universal input (AC85 - 264V) : PBA1500T(AC170 - 264V  $3\phi$ ) 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), EN60950-1, EN50178 UL508 (PBA10F - 150F, -24, with cover) Complies with DEN-AN

#### EMI

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

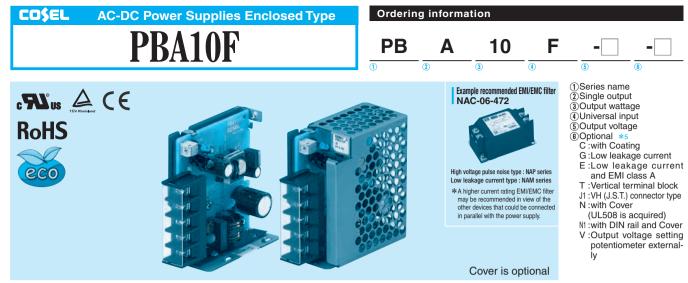
## CE marking

Low Voltage Directive RoHS Directive

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

**5-year warranty** (refer to Instruction Manual)



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	o or DC70 Please refer to the instruc	tion manual 1.1 Input voltage *3)						
		ACIN 100V	0.30typ (lo=100%)		·						
	CURRENT[A]	ACIN 200V	0.20typ (lo=100%)								
	FREQUENCY[Hz]		50/60 (47 - 440) or DC								
IPUT		ACIN 100V		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	DENAN)						
	VOLTAGE[V]		5	12	24						
	CURRENT[A]		2	0.9	0.5						
	LINE REGULATION[	mV] *6	20max	48max	96max						
	LOAD REGULATION	[mV] *6	40max	100max	150max						
		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						
TEN		0 to +50℃			240max						
	TEMPERATURE REGULATION[mV]		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 1minute of apply	ing input again from turning off the input volta						
	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	TING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96						
		ECTION	Works over 105% of rated current and	d recovers automatically							
ROTECTION RCUIT AND	OVERVOLTAGE PROTEC	TION[V]	5.75 - 7.00	15.0 - 18.0	30.0 - 37.0						
THERS	OPERATING INDICA	TION	LED (Green)								
	REMOTE ON/OFF		None								
	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 1		• • •						
OLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 1	0mA, DC500V 50MΩmin (At Room 1	Femperature)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25r		•						
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (Refer to "Derating"), 20	- 90%RH (Non condensing) 3,000m (	10,000feet) max						
VIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20 - 90%RH (Non cond								
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes p		d Z axis						
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X								
AFETY AND	AGENCY APPROVALS (At only	/	UL60950-1, C-UL(CSA60950-1), EN6								
OISE	CONDUCTED NOISE		Complies with FCC Part15 classB, VC		5022-B						
EGULATIONS		MONIC ATTENUATOR         Complies with IEC61000-3-2 (Not built-in to active filter *4) *7									
THERS	CASE SIZE/WEIGHT		31 × 78 × 68mm [1.22 × 3.07 × 2.68 inc	thes] (without terminal block) (W $\times$ H $\times$	D) / 150g max (with cover : 180g max						
IIIEN3	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.

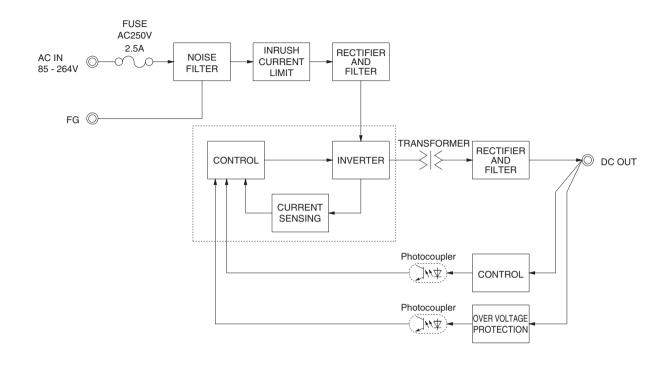
\*

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.

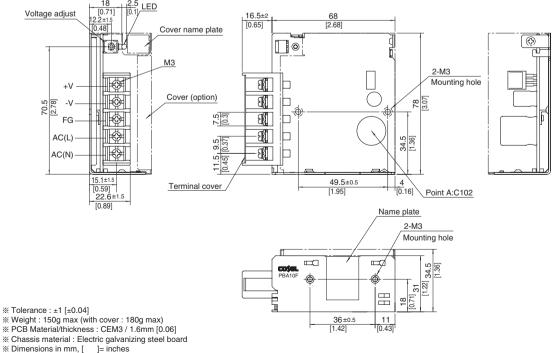
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**Block diagram** 



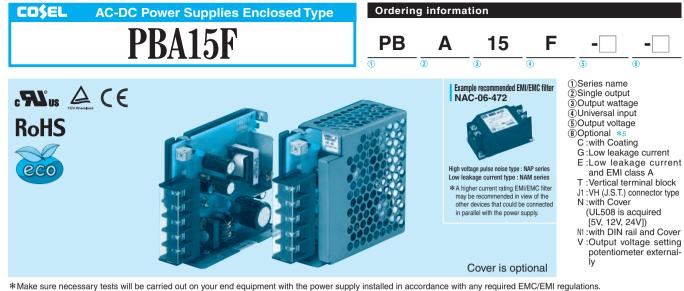
#### **External view**

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



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.



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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

#### **SPECIFICATIONS**

	MODEL		PBA15F-3R3	PBA15F-5	PBA15F-9	PBA15F-12	PBA15F-15	PBA15F-24	PBA15F-48			
	VOLTAGE[V]		AC85 - 264 1 $\phi$	or DC110 - 370	(AC50 or DC70	Please refer to the	he instruction ma	anual 1.1 Input vo	oltage *3)			
	CURRENT[A]	ACIN 100V	0.30typ (lo=100%)	0.4typ (lo=100%	(6)							
	CORRENT[A]	ACIN 200V	0.15typ (lo=100%)	0.15typ (lo=100%) 0.2typ (lo=100%)								
	FREQUENCY[Hz]		50/60 (47 - 440)	or DC								
NPUT		ACIN 100V	68typ	74typ	75typ	75typ	77typ	75typ	75typ			
	EFFICIENCY[%]	ACIN 200V	68typ	75typ	77typ	78typ	80typ	78typ	78typ			
		ACIN 100V										
	INRUSH CURRENT[A]	ACIN 200V	30typ (Io=100%) (At cold start)									
	LEAKAGE CURREN	T[mA]	0.15/0.30max (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]		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			
		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			
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	120max	150max	150max	150max	150max	250max			
	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]	-10 to +50°C	60max	60max	120max	150max	180max	290max	600max			
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	192max			
	START-UP TIME[ms]	1	200typ(ACIN 100V	lo=100%) *Start-u	up time is 700ms typ	for less than 1minu	ute of applying input	again from turning	off the input volta			
	HOLD-UP TIME[ms]		20typ (ACIN 10									
	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						
ROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	58.0 - 65.0			
RCUIT AND	OPERATING INDICA	TION	LED (Green)					•				
	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	)0V 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	efer to "Derating"	), 20 - 90%RH (I	Non condensing)	3,000m (10,000	feet) max				
VIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75℃, 20	) - 90%RH (Non	condensing) 9,0	00m (30,000feet)	max					
WIRONWENT	VIBRATION		10 - 55Hz, 19.6	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis									
AFETY AND	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			CC Part15 class								
EGULATIONS	HARMONIC ATTENL	IATOR	Complies with I	Complies with IEC61000-3-2 (Not built-in to active filter *4) *7								
	CASE SIZE/WEIGHT		31 × 78 × 85mm	[1.22×3.07×3.3	35 inches] (witho	ut terminal block)	)(WXHXD)/ 2	00g max (with co	over : 235g max			
THERS	COOLING METHOD		Convection		-				-			

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

Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C. \*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.

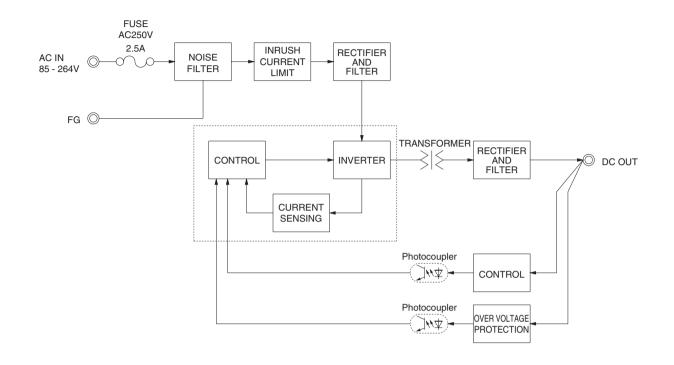
\*

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.

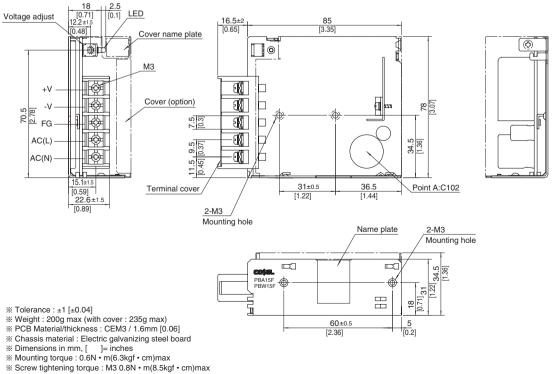
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**Block diagram** 

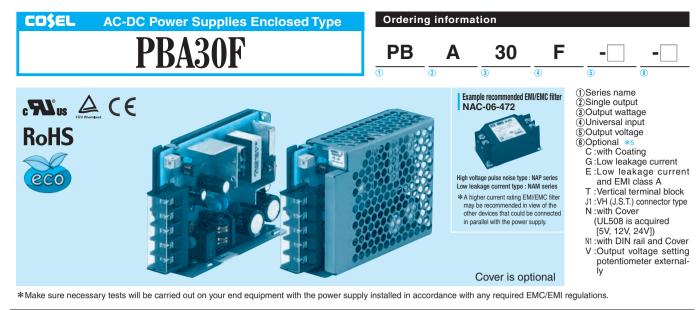


#### **External view**

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



\* 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

#### **SPECIFICATIONS**

	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	oltage *3)			
		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								
IPUT		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 CURRENT[mA]		0.30/0.65max (A	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]		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°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			
UTPUT	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]	-10 to +50℃	60max	60max	120max	150max	180max	290max	600max			
	DRIFT[mV] *		20max	20max	36max	48max	60max	96max	192max			
	START-UP TIME[ms]		200typ(ACIN 100V	, lo=100%) *Start-ı	up time is 700ms typ	o for less than 1min	ute of applying input	again from turning	off the input volta			
	HOLD-UP TIME[ms]		20typ (ACIN 10		· · ·							
	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						
ROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	58.0 - 65.0			
IRCUIT AND	OPERATING INDICA	TION	LED (Green)			•						
	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	efer to "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					
VVIRONMENT	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/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis									
AFETY AND	AGENCY APPROVALS (At onl	y AC input)	UL60950-1, C-L	UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN								
OISE	CONDUCTED NOISE		Complies with F	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B								
EGULATIONS												
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			
THERS	COOLING METHOD		31 x 78 x 103mm [1.22 x 3.07 x 4.06 inches] (without terminal block) (W x H x D) / 270g max (with cover : 310g max) 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.

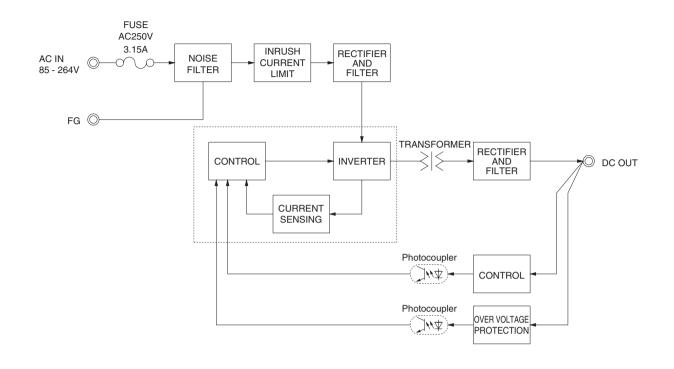
\*6 Please contact us about dynamic load and input response. \*7 Please contact us about class C.

\*

Parallel operation with other model is not possible.

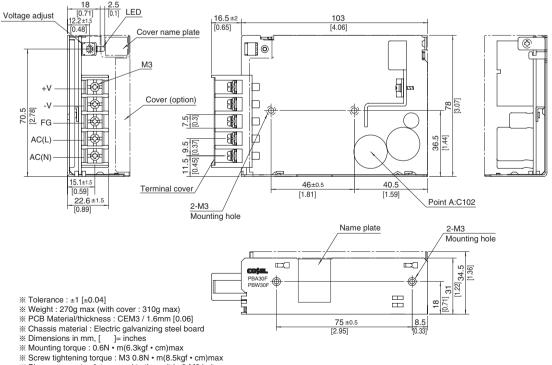
Derating is required when operated with cover. A sound may occur from power supply at peak loading. \*

**Block diagram** 

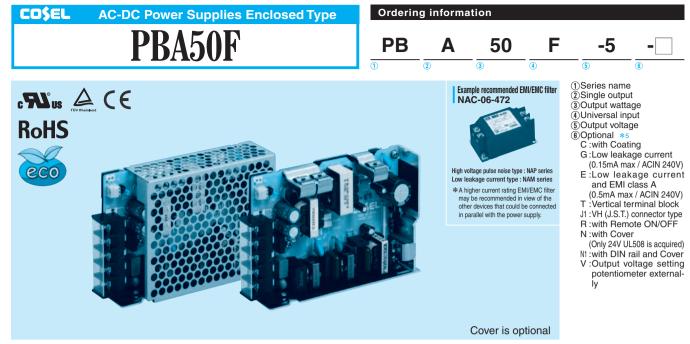


#### **External view**

% External size of option T,J1,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	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 r	nanual 1.1 Input	voltage *4)			
		ACIN 100V	0.5typ	0.7typ					ě.			
	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		
		ACIN 100V	0.98typ	0.99typ								
	POWER FACTOR(Io=100%)	ACIN 200V										
		ACIN 100V	15typ (lo=100%	b) (At cold start)								
	INRUSH CURRENT[A]	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[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		
	RIPPLE NOISE[mVp-p]	-10 - 0℃ *1	160max	160max	180max	180max	180max	180max	300max	300max		
		0 to +50℃	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 100V, 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	35.00 - 37.44	48.00 - 49.92		
	OVERCURRENT PROT	ECTION	Works over 10	5% of rated curre	ent and recover	s automatically						
PROTECTION		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	ON	LED (Green)									
	REMOTE ON/OFF			ired external por								
	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 50MΩmin	(At Room Temp	erature)				
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC	500V 50MΩmin (	At Room Tempe	erature)				
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-10 to +71℃ (F	lefer to "Derating	g"), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	00feet) max				
	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 2	0 - 90%RH (Noi	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 <sup>2</sup> (200	a), 11ms, once e	each X, Y and Z	axis						
SAFETY AND	AGENCY APPROVALS (At only	y AC input)	UL60950-1, C-	JL(CSA60950-1	), EN60950-1, E	N50178 Complie	es with DEN-AN					
NOISE	CONDUCTED NOISE		Complies with	FCC Part15 clas	sB, VCCI-B, CI	SPR22-B, EN550	11-B, EN55022-	·B				
REGULATIONS	HARMONIC ATTENUAT	FOR	Complies with	EC61000-3-2 *	:6							
OTHERS	CASE SIZE/WEIGHT		31 x 82 x 120m	m [1.22 x 3.23 x	4.72 inches] (wi	thout terminal blo	ock) (WXHXD)	280g max (wit	n cover : 325g m	ax)		
JIIENJ	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.

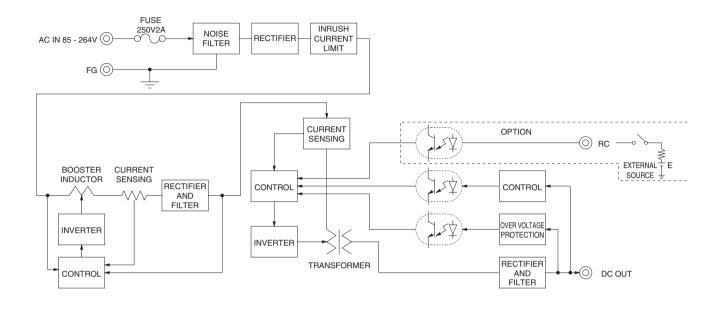
\* Parallel operation with other model is not possible.

Derating is required when operated with cover.

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

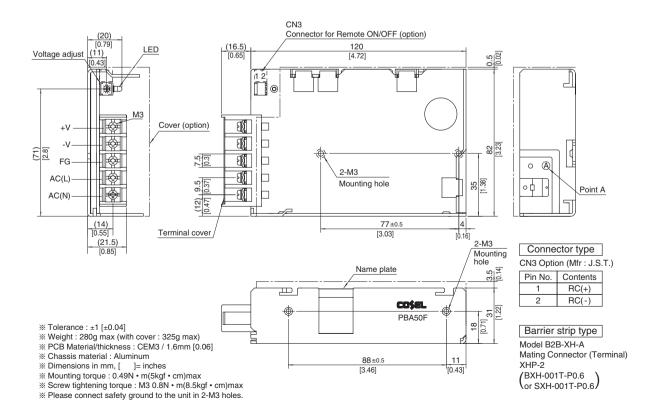
\*4 Derating is required.

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#### **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.



<b>CO\$EL</b> AC-DC Power Supplies Enclosed Type	Ordering information
PBA75F	PB A 75 F -5 -
<image/> <image/> <image/> <section-header><section-header><image/></section-header></section-header>	<ul> <li>Series name</li> <li>Single country</li> <li>Output woltage</li> <li>Output woltage setting</li> <li>Output woltage</li> </ul>
	Cover is optional

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 1.1 Input	voltage *4)			
		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		
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%	) (At cold start)								
	INRUSH CURRENT[A]	ACIN 200V	30typ (lo=100%	) (At cold start)								
	LEAKAGE CURRENT[r	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%	, According to IE	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	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		
ουτρυτ	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		
		-10 - 0°C *1	160max	160max	180max	180max	180max	180max	300max	300max		
	TEMPERATURE REGULATION(mV)	0 to +50℃	50max	50max	90max	120max	150max	240max	360max	480max		
		-10 to +50℃	60max	60max	120max	150max	180max	290max	450max	600max		
	DRIFT[mV]	*2	20max	20max	36max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]		350typ(ACIN 100V, Io=100%)									
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)									
	OUTPUT VOLTAGE ADJUSTMENT	FRANGE[V]	2.85 - 3.63	4.00 - 5.50	7.50 - 10.0	10.0 - 13.2	13.2 - 18.0	19.2 - 27.0	28.8 - 39.6	39.0 - 53.0		
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92		
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	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		
CIRCUIT AND	OPERATING INDICATIO	NC	LED (Green)									
	REMOTE ON/OFF			ired external pov								
	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 50MΩmin	(At Room Temp	erature)				
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC	500V 50M $\Omega$ min	(At Room Tempe	rature)				
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (F	lefer to "Derating	g"), 20 - 90%RH	(Non condensin	g) 3,000m (10,00	00feet) max				
INVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 2	0 - 90%RH (Noi	n condensing) 9	,000m (30,000fe	et) max					
	VIBRATION		10 - 55Hz, 19.6	im/s² (2G), 3mi	nutes period, 60	minutes each al	ong X, Y and Z a	axis				
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis									
SAFETY AND	AGENCY APPROVALS (At only	/ AC input)	UL60950-1, C-	JL(CSA60950-1	), EN60950-1, E	N50178 Complie	es with DEN-AN					
NOISE	CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B											
REGULATIONS	HARMONIC ATTENUAT	OR	Complies with	EC61000-3-2 *	6							
OTHERS	CASE SIZE/WEIGHT		32 x 82 x 135m	m [1.26 x 3.23 x	5.31 inches] (wi	thout terminal blo	ock) (W×H×D)	350g max (witl	h cover : 400g m	ax)		
JINERS	COOLING METHOD		Convection									

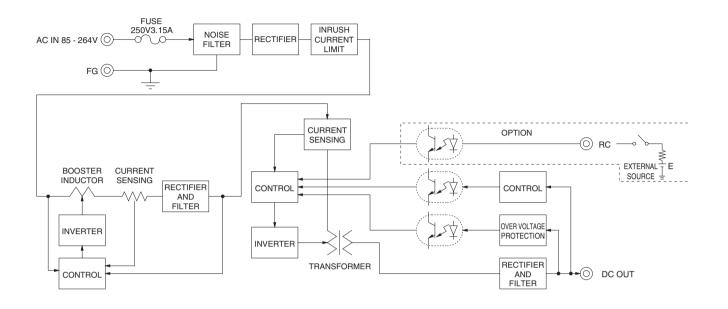
\*1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN :RM101).

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.

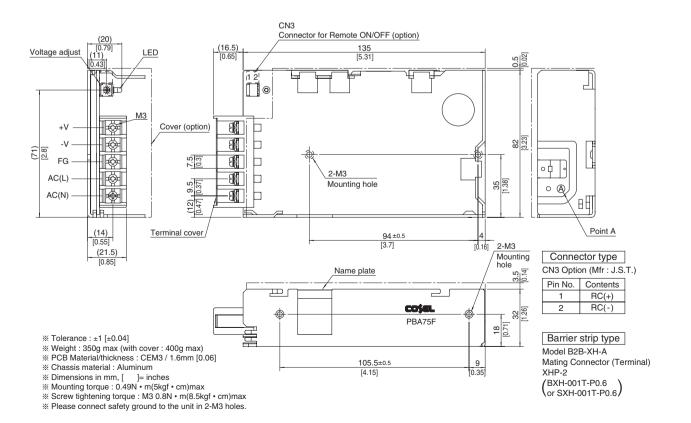
\*5 Please contact us about safety approvals for the model with option.
\*6 Please contact us about class C.
\* Parallel operation with other model is not possible.
\* Derating is required when operated with cover.
\* A sound may occur from power supply at peak loading.

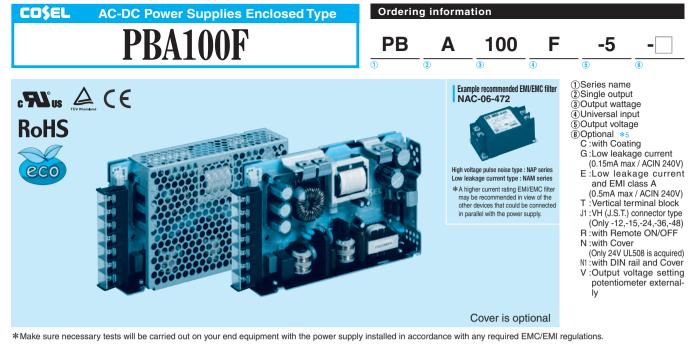




#### **External view**

\* External size of option T,J1,R,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

#### **SPECIFICATIONS**

	MODEL		PBA100F-3R3		PBA100F-9	PBA100F-12	PBA100F-15	PBA100F-24	PBA100F-36	PBA100F-48
	VOLTAGE[V]		AC85 - 264 1φ	or DC120 - 37	) (AC50 or DC7	0 Please refer to	the instruction r	nanual 1.1 Input	voltage *4)	
	CURRENTIA	ACIN 100V	0.9typ	1.3typ						
	CONNENT[A]	ACIN 200V	0.5typ	0.7typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
		ACIN 100V	77typ	82typ	80typ	81typ	83typ	84typ	84typ	84typ
NPUT	EFFICIENCY[%]	ACIN 200V	79typ	84typ	82typ	83typ	86typ	86typ	86typ	86typ
	POWER FACTOR(lo=100%)	ACIN 100V	0.98typ	0.99typ						
	POWER FACTOR(ID=100 %)	ACIN 200V		0.93typ						
	INRUSH CURRENT[A]	ACIN 100V	20typ (lo=100%	<ul> <li>At cold start)</li> </ul>						
	INRUSH CURRENT[A]	ACIN 200V	40typ (lo=100%	) (At cold start)						
	LEAKAGE CURRENT[r	nA]	0.4/0.75max (A	CIN 100V/240V	60Hz, lo=100%	, According to IE	C60950-1,DENA	N)		
	VOLTAGE[V]		3.3	5	9	12	15	24	36	48
	CURRENT[A]		20	20	10.5	8.5	7	4.5	2.8	2.1
	LINE REGULATION[m]	/]	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION[m	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
		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 10	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]	3.20 - 3.40	5.00 - 5.15	9.00 - 9.36	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	ent and recovers	automatically				
PROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0
	OPERATING INDICATIO	ON	LED (Green)							
OTHERS	REMOTE SENSING			-3R3, -5 Option						
	REMOTE ON/OFF			ired external por						
	INPUT-OUTPUT · RC	*3				500V 50M $\Omega$ min				
SOLATION	INPUT-FG		AC2,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50M $\Omega$ min	(At Room Tempe	erature)		
	OUTPUT · RC-FG	*3				500V 50MΩmin (				
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (F	lefer to "Derating	j"), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	00feet) max		
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-20 to +75°C, 2	0 - 90%RH (Noi	n condensing) 9	000m (30,000fee	et) max			
	VIBRATION		10 - 55Hz, 19.6	im/s² (2G), 3mi	nutes period, 60	minutes each ale	ong X, Y and Z a	axis		
	IMPACT		196.1m/s <sup>2</sup> (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	), EN60950-1, E	N50178 Complie	es with DEN-AN			
VOISE	CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B									
REGULATIONS	HARMONIC ATTENUAT	FOR	Complies with I	EC61000-3-2 *	6					
OTHERS	CASE SIZE/WEIGHT		32×93×147m	m[1.26×3.66×	5.79 inches] (wi	hout terminal blo	ock) (WXHXD)	/ 440g max (wit	h cover : 500g m	lax)
JINENO	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.

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

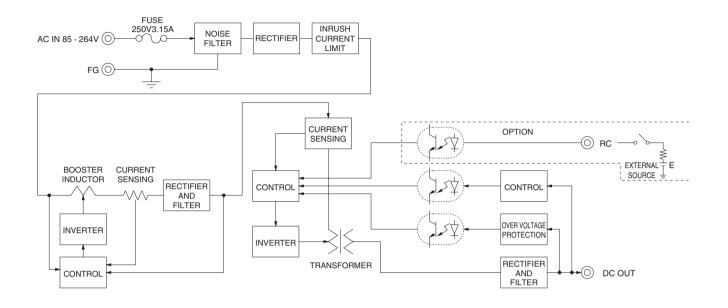
\* Parallel operation with other model is not possible.

\* Derating is required when operated with cover.

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

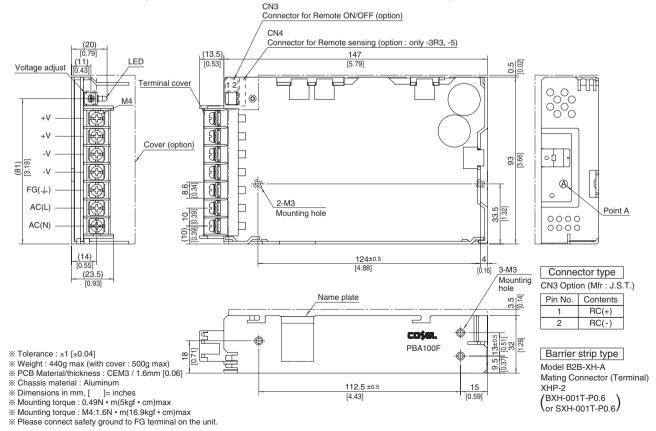
\*4 Derating is required.

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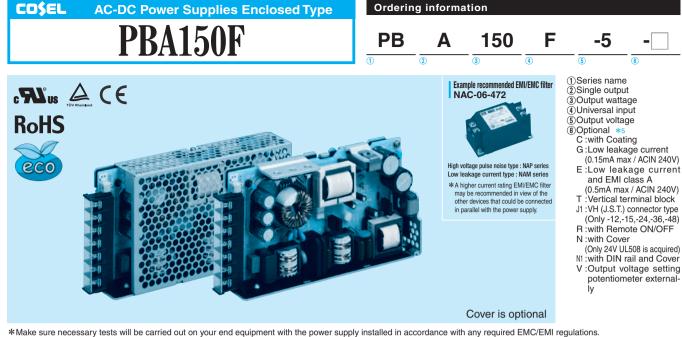


#### **External view**





June 25, 2020



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

#### **SPECIFICATIONS**

	MODEL		PBA150F-3R3	PBA150F-5	PBA150F-9	PBA150F-12	PBA150F-15	PBA150F-24	PBA150F-36	PBA150F-48	
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 37	0 (AC50 or DC7	0 Please refer to	the instruction r	nanual 1.1 Input	voltage *4)		
		ACIN 100V	1.3typ	2.0typ					-		
	CURRENT[A]	ACIN 200V	0.7typ	1.0typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
		ACIN 100V	80typ	83typ	82typ	83typ	84typ	85typ	85typ	85typ	
NPUT	EFFICIENCY[%]	ACIN 200V	82typ	86typ	85typ	86typ	87typ	88typ	88typ	88typ	
	POWER FACTOR(lo=100%)	ACIN 100V	0.98typ	0.99typ							
	POWER FACTOR(IO=100%)	ACIN 200V	0.87typ	0.93typ							
		ACIN 100V	20typ (lo=100%	) (At cold start)							
	INRUSH CURRENT[A]	ACIN 200V	40typ (lo=100%	) (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]		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	nV]	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°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°C *1	160max	160max	180max	180max	180max	180max	300max	300max	
		0 to +50℃	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, 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	36.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT	ECTION	Works over 105	% of rated curre	ent and recovers	automatically					
ROTECTION	OVERVOLTAGE PROTEC	TION[V]	4.00 - 5.25	5.75 - 7.00	11.5 - 14.0	15.0 - 18.0	20.0 - 25.0	30.0 - 37.0	43.0 - 50.0	58.0 - 65.0	
	OPERATING INDICATION	ON	LED (Green)								
DTHERS	REMOTE SENSING		Optional (Only	-3R3, -5 Option	-K)						
	REMOTE ON/OFF		Optional (Requ	ired external pov	wer source)						
	INPUT-OUTPUT · RC	*3	AC3,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Tempe	erature)			
SOLATION	INPUT-FG		AC2,000V 1mir	ute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Tempe	erature)			
	OUTPUT · RC-FG	*3	AC500V 1minu	te, Cutoff curren	t = 100mA, DC5	500V 50MΩmin (	At Room Tempe	rature)			
	OPERATING TEMP., HUMID.AND	ALTITUDE	-10 to +71℃ (F	lefer to "Derating	ı"), 20 - 90%RH	(Non condensing	g) 3,000m (10,00	00feet) max			
	STORAGE TEMP.,HUMID.AND	ALTITUDE	-10 to +71℃ (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max -20 to +75℃, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max								
NVIRONMENT	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s2 (200	a), 11ms, once e	ach X, Y and Z	axis	-				
AFETY AND	AGENCY APPROVALS (At only	AC input)	UL60950-1, C-I	JL(CSA60950-1	), EN60950-1, E	N50178 Complie	s with DEN-AN				
IOISE	CONDUCTED NOISE		Complies with I	CC Part15 clas	sB, VCCI-B, CI	SPR22-B, EN550	11-B, EN55022-	В			
REGULATIONS		FOR		EC61000-3-2 *			-				
	CASE SIZE/WEIGHT		34×93×168m	m [1.34 × 3.66 ×	6.61 inches] (wi	hout terminal blo	ock) (W×H×D) /	560g max (wit	h cover : 630g m	ax)	
OTHERS	COOLING METHOD		Convection					0	j		
	by 20MHz oscilloscope or F						oout safety approva				

June 25, 2020

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.

\*4 Derating is required.

PBA/PBW-14

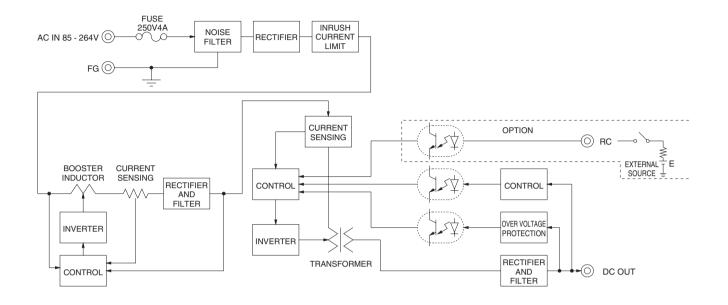
lease contact us about safety approvals for the model with option. \*6 Please contact us about class C.

\* Parallel operation with other model is not possible.

\*

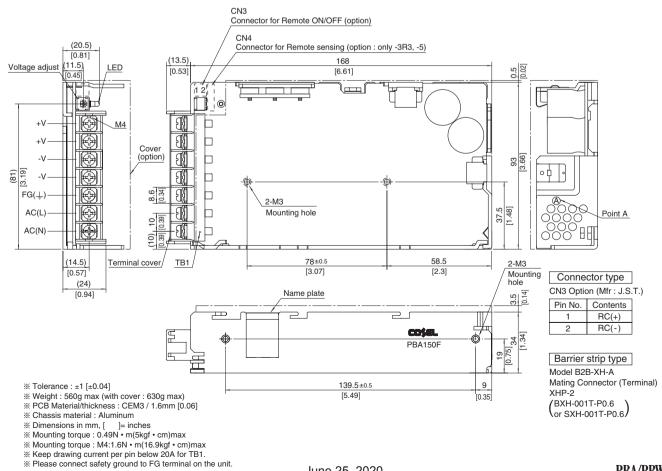
Derating is required when operated with cover. \* A sound may occur from power supply at peak loading.

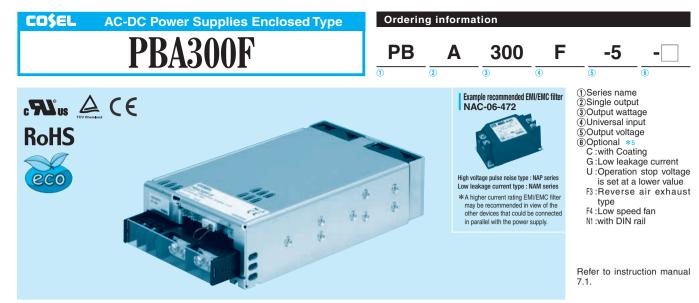
PBA150F | COSEL



**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.





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

#### **SPECIFICATIONS**

	MODEL		PBA300F-3R3	PBA300F-5	PBA300F-7R5	PBA300F-12	PBA300F-15	PBA300F-24	PBA300F-36	PBA300F-48		
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 35	0 (AC50 or DC70	) Please refer to	the instruction r	nanual 7. option	*4)			
		ACIN 100V	3typ	4.1typ								
	CURRENT[A]	ACIN 200V		2typ								
	FREQUENCY[Hz]		50/60 (47 - 63)									
		ACIN 100V	68typ	74typ	76typ	78typ	78typ	79typ	81typ	79typ		
IPUT	EFFICIENCY[%]	ACIN 200V	71typ	77typ	79typ	81typ	81typ	82typ	84typ	82typ		
			0.98typ (lo=100									
	POWER FACTOR	ACIN 200V	0.95typ (lo=100	0%)								
					nrush current /Se	condary inrush o	current) (More th	en 3 sec. to re-s	tart)			
	INRUSH CURRENT[A]				nrush current /Se							
	LEAKAGE CURRENT[r				V 60Hz, lo=100%							
	VOLTAGE[V]	-	3.3	5	7.5	12	15	24	36	48		
		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]	/1	20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION	-	40max	40max	60max	100max	120max	150max	150max	300max		
		0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-20 - 0℃ *1	140max	140max	160max	160max	160max	160max	160max	400max		
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max		
T	RIPPLE NOISE[mVp-p]	-20 - 0℃ *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]		12max	20max	30max	48max	60max	96max	144max	192max		
	START-UP TIME[ms]				*Start-up time is							
	HOLD-UP TIME[ms]			00/200V, lo=100				117 5 1 5	<b>y</b>			
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]		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 - 56.0		
	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 - 49.9		
	OVERCURRENT PROT				ent or 101% of p							
ROTECTION	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 INDICATIO		LED (Green)									
THERS	REMOTE SENSING	-	Provided									
	REMOTE ON/OFF		Provided									
	INPUT-OUTPUT · RC		AC3,000V 1mir	nute, Cutoff curre	ent = 10mA, DC	500V 50MΩmin	(At Room Temp	erature)				
	INPUT-FG				ent = 10mA, DC		· ·					
SOLATION	OUTPUT · RC · AUX-F	G			nt = 100mA, DC5							
	OUTPUT-RC · AUX				t = 100mA, DC5							
	OPERATING TEMP., HUMID.AND	ALTITUDE			g"), 20 - 90%RH							
	STORAGE TEMP. HUMID.AND	ALTITUDE		,								
VIRONMENT	VIBRATION		-20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT				each X, Y and Z		5,					
AFETY AND	AGENCY APPROVALS (At only	AC input)			), EN60950-1, E		s with DEN-AN					
OISE	CONDUCTED NOISE	/ · · • · · · · · · · · · · · ·						В				
EGULATIONS	HARMONIC ATTENUAT	FOR	Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *6									
	CASE SIZE/WEIGHT				×6.69 inches] (w	ithout terminal b	lock and screw)	(WXHXD) /1.0	a max			
THERS	COOLING METHOD		Forced cooling									

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 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual

in detail.

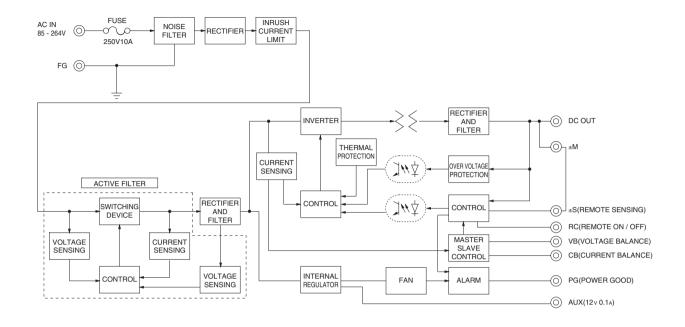
\*4 Derating is required.Consult us for details.

\*

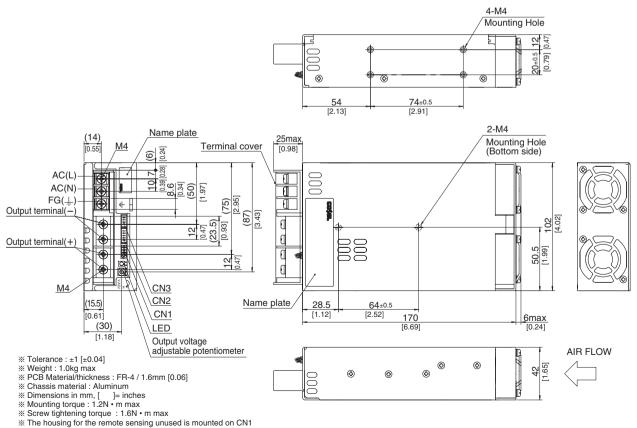
\*6 Please contact us about class C.

A sound may occur from power supply at pulse loading.

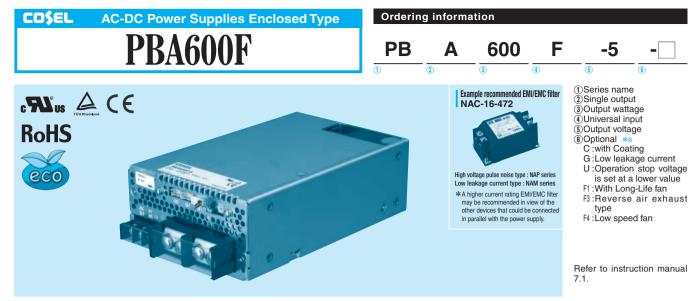
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**External view** 



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



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

#### **SPECIFICATIONS**

	MODEL		PBA600F-3R3	PBA600F-5	PBA600F-7R5	PBA600F-12	PBA600F-15	PBA600F-24	PBA600F-36	PBA600F-48
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 35	0 (AC50 or DC70	) Please refer to	the instruction r	nanual 7. option	*5)	·
		ACIN 100V	5.8typ	8.2typ						
	CURRENT[A]	ACIN 200V		4.1typ						
	FREQUENCY[Hz]		50/60 (47 - 63)							
		ACIN 100V		75typ	76typ	79typ	79typ	81typ	82typ	81typ
IPUT	EFFICIENCY[%]	ACIN 200V		77typ	79typ	82typ	82typ	84typ	84typ	83typ
			0.98typ (lo=100		Protyp	02.90	02.90	0.00	onyp	ootyp
	POWER FACTOR		0.95typ (lo=100							
					nrush current /Se	condary inrush	current) (More th	an 3 sec. to re-s	start)	
	INRUSH CURRENT[A]				rush current /Se					
	LEAKAGE CURRENT[		21 3		V 60Hz, lo=100%	,	, ,			
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48
	TOEIAGE[T]	ACIN 100V		120	80	53	43	27	18	13
	CURRENT[A]	ACIN 200V *3	120	120	80	53	43	27(31)	18	13
	LINE REGULATION[m]	1 11	20max	20max	36max	48max	60max	96max	144max	192max
	LOAD REGULATION	-	40max	40max	60max	100max	120max	150max	150max	300max
		0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max
	RIPPLE[mVp-p]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max
UTPUT	RIPPLE NOISE[mVp-p]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max
ſ		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]	1-20 10 +30 (	12max	20max	30max	48max	60max	96max	144max	192max
	START-UP TIME[ms]				*Start-up time is					
	HOLD-UP TIME[ms]			0/200V, lo=100/8/		Sooms typ for les	s that minute of	appiying input aga		the input voltag
	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 07.44	40.00 40.02
	OVERVOLTAGE PROTECT		Vorks over 10.		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
ROTECTION			LED (Green)	V0+1.0 - 2.0	10+1.5 0.0	V0+2.+ 4.0	V0+0.0 - 0.0	1014.0 0.0	14.4	12.0
THERS	REMOTE SENSING		Provided							
	REMOTE ON/OFF		Provided							
	INPUT-OUTPUT · RC			outo Cutoff curr	ent = 10mA, DC5	500V 50M () min		oraturo)		
	INPUT-FG				ent = $10mA$ , DCS ent = $10mA$ , DCS		· · ·			
SOLATION	OUTPUT · RC · AUX-F	6			t = 100 mA, DCS					
	OUTPUT-RC · AUX	a			t = 100 mA, DCS					
	OPERATING TEMP.,HUMID.AND				q"), 20 - 90%RH					
	STORAGE TEMP.,HUMID.AND				n condensing) 9,					
NVIRONMENT	VIBRATION	ALIIIODE	-		inutes period, 60			avie		
	IMPACT				each X, Y and Z			2/13		
		. AC innut)			), EN60950-1, El					
AFETY AND	CONDUCTED NOISE	y AC Input)			sB, VCCI-B, CIS			D		
	HARMONIC ATTENUAT					PR22-D, ENDOL	JII-D, EN33022-	·D		
				IEC61000-3-2 *		hout torminal bl	ok and corow) ()		7 mov	
								vv x Π X I JI / I DK(		
IOISE EGULATIONS	CASE SIZE/WEIGHT		120 × 61 × 190r Forced cooling	- · · · · ·	7.40 Inchesj (will				ginax	

\*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

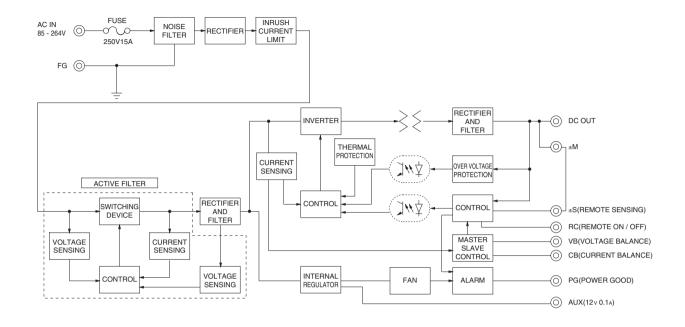
protection circuit is please contact us for details.

\*

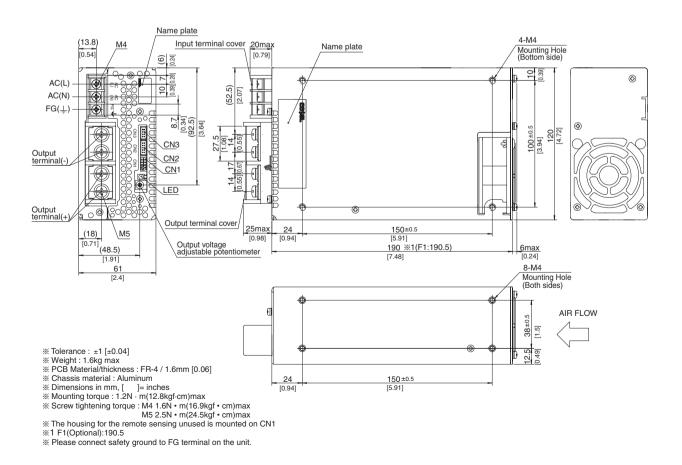
\*7 Please contact us about class C.

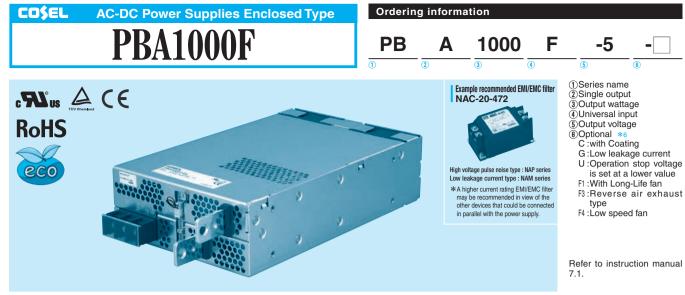
A sound may occur from power supply at pulse loading.

PBA600F | CO\$EL



#### **External view**





MODEL		PBA1000F-3R3	PBA1000F-5	PBA1000F-7R5	PBA1000F-12	PBA1000F-15	PBA1000F-24	PBA1000F-36	PBA1000F-48
MAX OUTPUT WATTAGE[W]		660	1000	1005	1056	1050	1056	1044	1056
DC OUTPUT	ACIN 100V	3.3V 200A	5V 200A	7.5V 134A	12V 88A	15V 70A	24V 44A	36V 29A	48V 22A
DC 001P01	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-4		
	VOLTAGE[V]		AC85 - 264 1 ¢	or DC120 - 35	0 (AC50 or DC70	) Please refer to	the instruction r	nanual 7. option	*5)			
		ACIN 100V	9typ	13typ								
	CURRENT[A]	ACIN 200V	5typ	7typ								
	FREQUENCY[Hz]		50/60 (47 - 63)									
		ACIN 100V	74typ	79typ	80typ	82typ	82typ	84typ	84typ	84typ		
IPUT	EFFICIENCY[%]	ACIN 200V	76typ	81typ	83typ	84typ	84typ	86typ	86typ	86typ		
	DOWED FLOTOD	ACIN 100V	0.98typ (lo=100	0%)								
	POWER FACTOR	ACIN 200V	0.95typ (lo=100	0%)								
		ACIN 100V	20/40typ (lo=10	00%) (Primary ir	nrush current /Se	condary inrush c	urrent) (More th	an 10 sec. to re-	start)			
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (lo=10	00%) (Primary ir	nrush current /Se	condary inrush c	urrent) (More th	an 10 sec. to re-	start)			
	LEAKAGE CURRENT[I	mA]	0.5/1.0max (AC	CIN 100V/240V 6	60Hz, lo=100%, A	According to IEC	60950-1, DENA	N)				
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48		
		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]	V]	20max	20max	36max	48max	60max	96max	144max	192max		
	LOAD REGULATION[m	ηV]	40max	40max	60max	100max	120max	150max	150max	300max		
		0 to +50°C *1	80max	80max	120max	120max	120max	120max	150max	150max		
	RIPPLE[mVp-p]	-20 - 0°C *1	140max	140max	160max	160max	160max	160max	160max	400max		
		0 to +50°C *1	120max	120max	150max	150max	150max	150max	200max	200max		
UTPUT	RIPPLE NOISE[mVp-p]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max		
C	TEMPERATURE REGULATION[mV]	0 to +50°C	40max	50max	75max	120max	150max	240max	360max	480max		
	TEMPERATURE REGULATION[IIIV]	-20 to +50°C	60max	75max	120max	180max	180max	290max	440max	600max		
	DRIFT[mV]	12max	20max	30max	48max	60max	96max	144max	192max			
	START-UP TIME[ms]		400typ(ACIN 100	0/200V, lo=100%)	*Start-up time is	500ms typ for less	than 1minute of	applying input aga	in from turning off	the input voltag		
	HOLD-UP TIME[ms]	20typ (ACIN 10	0/200V, lo=100	%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.0		
	OUTPUT VOLTAGE SET	TTING[V]	3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92		
	OVERCURRENT PROT	ECTION	Works over 108	5% of rated curr	ent or 101% of p	eak current and	recovers automa	atically				
ROTECTION	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.		
	OPERATING INDICATION	ON	LED (Green)									
THERS	REMOTE SENSING		Provided									
	REMOTE ON/OFF		Provided									
	INPUT-OUTPUT · RC		AC3,000V 1mir	nute, Cutoff curre	ent = 25mA, DC5	500V 50MΩmin	(At Room Tempe	erature)				
SOLATION	INPUT-FG				ent = 25mA, DC5							
DELAHON	OUTPUT · RC · AUX-F	G			nt = 100mA, DC5	(	I	,				
	OUTPUT-RC · AUX			AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature)								
	OPERATING TEMP.,HUMID.AND				g"), 20 - 90%RH			00feet) max				
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-		n condensing) 9,							
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis									
	IMPACT				each X, Y and Z							
		y AC input)			), EN60950-1, El							
	CONDUCTED NOISE				ssB, VCCI-B, CIS	PR22-B, EN550	11-B, EN55022-	В				
OISE			Complies with	IEC61000-3-2 🕴								
OISE	HARMONIC ATTENUAT	IOR										
AFETY AND IOISE EGULATIONS	HARMONIC ATTENUA CASE SIZE/WEIGHT COOLING METHOD	IOR	150 x 61 x 240r Forced cooling	nm [5.91 x 2.4 x	9.45 inches] (with	hout terminal blo	ck and screw) (	N X H X D) /2.2kg	j max			

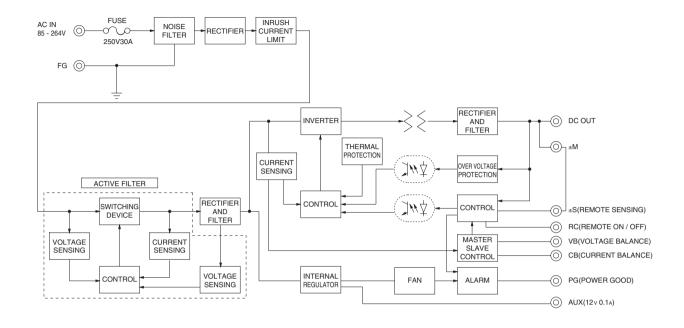
Ripple and ripple noise is measured on measuring board with capacitor of 22  $\mu\,F$  within 150mm from the output terminal.

\*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 \*5 Derating is required.Consult us for details. \*6 Please contact us about safety approvals for the model with option.

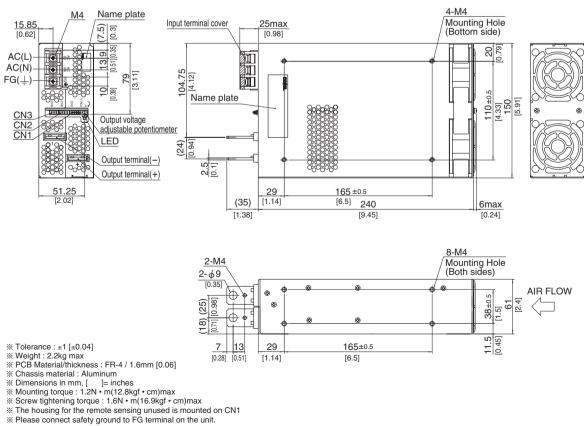
Please contact us about class C.

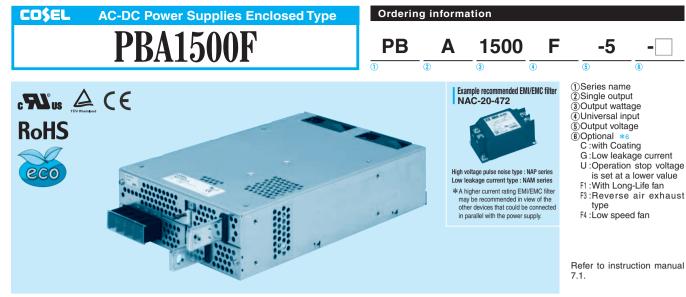
\* A sound may occur from power supply at pulse loading.

PBA1000F | CO\$EL



#### **External view**





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

#### **SPECIFICATIONS**

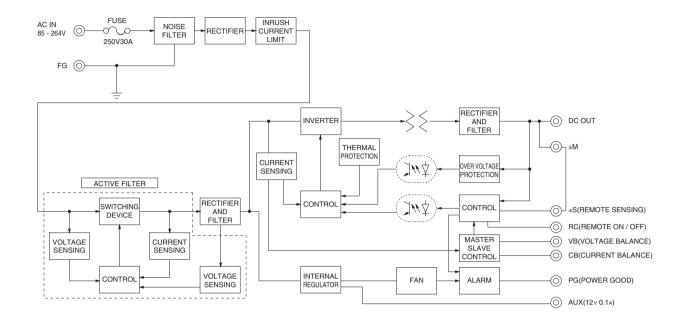
	MODEL		PBA1500F-3R3				PBA1500F-15			PBA1500F-4	
	VOLTAGE[V]		AC85 - 264 1¢	or DC120 - 37	0 (AC50 or DC70	Please refer to	the instruction n	nanual 7. option	*5)		
	CURRENT[A]	ACIN 100V	15typ	19typ							
	CORRENT[A]	ACIN 200V	8typ	10typ							
	FREQUENCY[Hz]		50/60 (47 - 63)								
		ACIN 100V	72typ	77typ	81typ	81typ	83typ	84typ	84typ	84typ	
IPUT	EFFICIENCY[%]	ACIN 200V	75typ	81typ	83typ	84typ	86typ	87typ	87typ	87typ	
		ACIN 100V	0.98typ (lo=100	)%)							
	POWER FACTOR	ACIN 200V	0.95typ (lo=100	)%)							
		ACIN 100V	20/40typ (lo=10	0%) (Primary in	rush current /Se	condary inrush c	urrent) (More th	an 10 sec. to re-	start)		
	INRUSH CURRENT[A]	ACIN 200V	40/40typ (lo=10	0%) (Primary in	rush current /Se	condary inrush c	urrent) (More the	an 10 sec. to re-	start)		
	LEAKAGE CURRENT[r	mA]	0.9/1.5max (AC	IN 100V/240V 6	60Hz, lo=100%, /	According to IEC	60950-1, DENA	1)			
	VOLTAGE[V]		3.3	5	7.5	12	15	24	36	48	
		ACIN 100V	300	300	200	125	100	65	42	32	
	CURRENT[A]	ACIN 200V *3	300	300	200	125	100	70(105)	47(70)	35	
	LINE REGULATION[m]	v]	20max	20max	36max	48max	60max	96max	144max	192max	
	LOAD REGULATION[m	nV]	40max	40max	60max	100max	120max	150max	150max	300max	
		0 to +50℃ *1	80max	80max	120max	120max	120max	120max	150max	150max	
	RIPPLE[mVp-p]	-20 - 0℃ *1	140max	140max	160max	160max	160max	160max	160max	400max	
UTPUT		0 to +50℃ *1	120max	120max	150max	150max	150max	150max	200max	200max	
UIPUI	RIPPLE NOISE[mVp-p]	-20 - 0°C *1	160max	160max	180max	180max	180max	180max	240max	500max	
C	TEMPERATURE REGULATION[mV]	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]		600typ(ACIN 1	00/200V, lo=100	%)						
	HOLD-UP TIME[ms]		20typ (ACIN 10	0/200V, lo=100	%)					-	
	OUTPUT VOLTAGE ADJUSTMENT	T RANGE[V]	2.64 - 3.96	3.96 - 6.00	5.25 - 8.25	8.25 - 13.20	10.50 - 16.50	16.50 - 26.40	25.20 - 39.60	38.40 - 56.00	
	OUTPUT VOLTAGE SET	TING[V]	3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	36.00 - 37.44	48.00 - 49.92	
	OVERCURRENT PROT				ent or 101% of p						
ROTECTION	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	
	OPERATING INDICATIO	ON	LED (Green)								
THERS	REMOTE SENSING		Provided								
	REMOTE ON/OFF		Provided								
	INPUT-OUTPUT · RC				ent = 25mA, DC		· ·				
SOLATION	INPUT-FG				ent = 25mA, DC						
JOLAHON	OUTPUT · RC · AUX-F	G			t = 100mA, DC5						
	OUTPUT-RC · AUX				t = 100mA, DC5						
	OPERATING TEMP.,HUMID.AND				g"), 20 - 90%RH			0feet) max			
NVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE	-		n condensing) 9,						
LIU	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT				each X, Y and Z						
AFETY AND	AGENCY APPROVALS (At only	y AC input)			), EN60950-1, E						
	CONDUCTED NOISE				3, VCCI-B, CISPR	22-B, EN55011-B	, EN55022-B, add	itional EMI/EMC I	ilter required for	meeting class I	
EGULATIONS	HARMONIC ATTENUAT	TOR		EC61000-3-2 *							
THERS	CASE SIZE/WEIGHT				10.55 inches] (w	thout terminal bl	ock and screw)	W×H×D) /3.4	kg max		
	COOLING METHOD		Forced cooling	(internal fan)							
*1 Measured :RM101).	by 20MHz oscilloscope or F	Ripple-Nois	e meter(equivalent	to KEISOKU-GIKI			on circuit to follow t lease contact us fo		etting. Standard ove	ervoltage	

Ripple and ripple noise is measured on measuring board with capacitor of 22  $\mu$  F within 150mm from the output terminal.

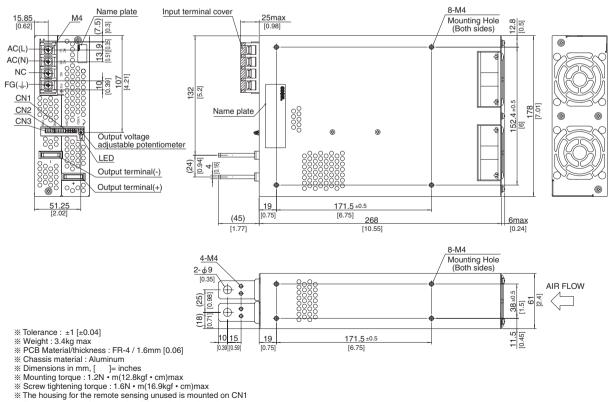
\*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
 \*3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual in detail.

- \*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.
- , refer to Instruction manual \* A sound may occur from power supply at pulse loading.

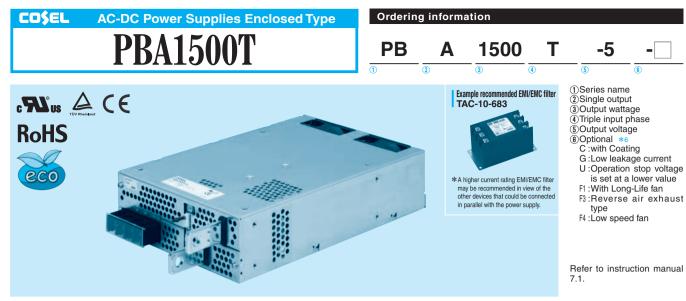
PBA1500F | CO\$EL



#### **External view**



\* Please connect safety ground to FG terminal on the unit.



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

#### **SPECIFICATIONS**

	MODEL		PBA1500T-5	PBA1500T-12	PBA1500T-24	PBA1500T-48					
	VOLTAGE[V]		AC170 - 264 3 \$\phi\$ (AC100 Pleas	e refer to the instruction manua	I 7. option ¥5)	÷					
	CURRENT[A]	ACIN 200V	6typ								
	FREQUENCY[Hz]		50/60 (47 - 63)								
	EFFICIENCY[%]	ACIN 200V	81typ	84typ	87typ	87typ					
	POWER FACTOR	ACIN 200V	0.95typ (lo=100%)								
	INRUSH CURRENT[A]	ACIN 200V									
	LEAKAGE CURRENT[I	nA]	1.5max (ACIN 240V 60Hz, Io=1	1.5max (ACIN 240V 60Hz, Io=100%, According to IEC60950-1, DENAN)							
	VOLTAGE[V]         AC170 - 264 3.¢         (AC100 Please refer to the instruction manual 7. option *5)           CURRENT[A]         AC0 200         Btyp           FREGUENCY[H2]         AC0 200         Btyp         B7typ           PRECUENCY[H2]         AC0 200         0.55yp (lo=100%)         B7typ         B7typ           POWER FACTOR         AC0 2000         0.55yp (lo=100%)         POWER FACTOR         AC0 2000         0.55yp (lo=100%)           INRUSH CURRENT[A]         1.5max (ACIN 240V 60Hz. lo=100%, According to IEC60950-1. DENAN)         VOLTAGE[V]         5         12         24         48           CURRENT[A]         AXM 200         20max         48max         96max         192max           LOAD REGULATION[mV]         20max         48max         150max         300max           RIPPLE[mVp-p]         [06 497,e]         80max         120max         150max         200max           30 - 0, c =         140max         160max         160max         160max         200max           RIPPLE[mVp-p]         [06 497,e]         80max         120max         150max         200max           30 - 0, c =         160max         160max         160max         180max         200max           BIPLE[mVp-p]         [06 497,c]	48									
	CURRENT[A]	ACIN 200V *3	300	125	70(105)	35					
	LINE REGULATION[m	/]	20max	48max	96max	192max					
	LOAD REGULATION[m	V]	40max	100max	150max	300max					
		0 to +50°C *1	80max	120max	120max	150max					
	nirr_c[iiivp-p]	-20 - 0℃ *1	140max	160max	160max	400max					
		0 to +50°C *1	120max	150max	150max	200max					
OUTPUT	RIPPLE NOISE[IIIVP-P]	-20 - 0℃ *1	160max	180max	180max	500max					
		0 to +50°C	50max	120max	240max	480max					
	TEMPERATURE REGULATION[IIIV]	-20 to +50°C	75max	180max	290max	600max					
	DRIFT[mV] *2		20max	48max	96max	192max					
	START-UP TIME[ms]		300typ(ACIN 200V, Io=100%) * Start-up time is 500ms typ for less than 1 minute of applying input again from turning off the input voltage								
	HOLD-UP TIME[ms]		20typ (ACIN 200V, Io=100%)								
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		3.96 - 6.00	8.25 - 13.20	16.50 - 26.40	38.40 - 56.00					
	OUTPUT VOLTAGE SET	TING[V]	5.00 - 5.15	12.00 - 12.48	24.00 - 24.96	48.00 - 49.92					
	OVERCURRENT PROT	ECTION	Works over 105% of rated current or 101% of peak current and recovers automatically								
PROTECTION	OVERVOLTAGE PROTECT	ION[V] *4	Vo+1.0 - 2.0	Vo+2.4 - 4.8	Vo+4.8 - 9.6	Vo+2.0 - 12.0					
CIRCUIT AND	OPERATING INDICATION	NC	LED (Green)								
OTHERS	REMOTE SENSING		Provided								
	REMOTE ON/OFF		Provided								
	INPUT-OUTPUT · RC		AC3,000V 1minute, Cutoff current = 25mA, DC500V $50M_{\Omega}$ min (At Room Temperature)								
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 25mA, DC500V 50MΩmin (At Room Temperature)								
ISOLAHON	OUTPUT · RC · AUX-F	G	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature)								
	OUTPUT-RC · AUX		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩmin (At Room Temperature)								
	OPERATING TEMP.,HUMID.AND	ALTITUDE	-20 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max								
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALTITUDE									
EntrinoitalEntr	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once e	55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis 1m/s <sup>2</sup> (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 Compl	ies with DEN-AN						
REGULATIONS	CONDUCTED NOISE				B, EN55022-B, additional EMI/EMC						
OTHERS	CASE SIZE/WEIGHT		178×61×268mm [7.01×2.4×	10.55 inches] (without terminal	block and screw) (W $\times$ H $\times$ D) /3.4	lkg max					
CTILII0	COOLING METHOD		Forced cooling (internal fan)								

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

\*4 Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.

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 charge 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

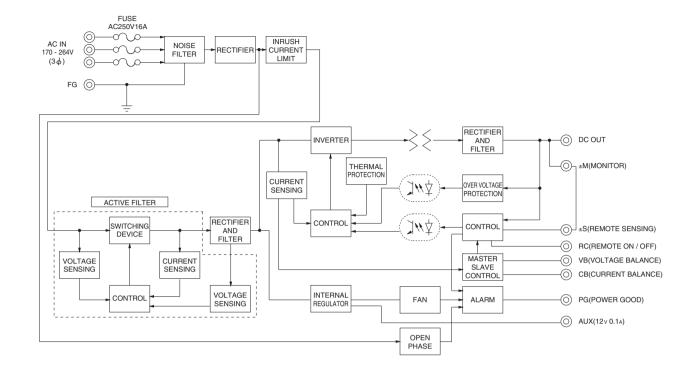
\*5 Derating is required.Consult us for details.
\*6 Please contact us about safety approvals for the

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

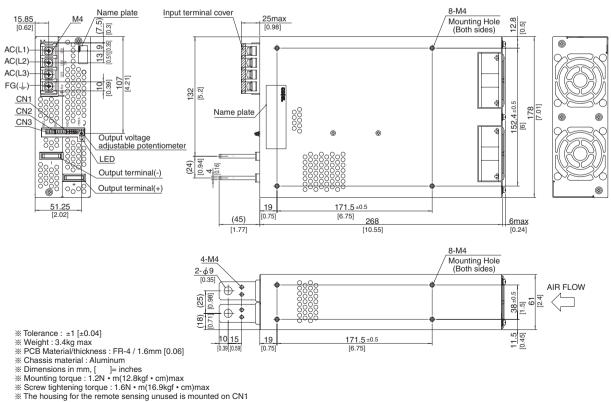
our warm-up at 25°C. \* A sound may occur from power supply

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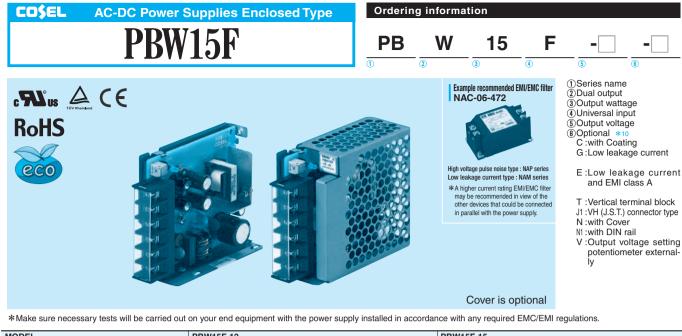
**Block diagram** 



#### **External view**



\* Please connect safety ground to unit in M4 holes.



IODEL	PBW15F-12	PBW15F-15
IAX OUTPUT WATTAGE[W]	5 16.8	15.0
VOLTAGE[V]	6 ±12(+24)	±15(+30)
C OUTPUT CURRENTI	] 0.7	0.5
CURRENT2[A]	5 1.4	1.0

#### **SPECIFICATIONS**

	MODEL		PBW15F-12		PBW15F-15			
	VOLTAGE[V]		AC85 - 264 1 ¢ or D	C110 - 370 (AC50 or DC70 Please refer to	the instruction manual	1.1 Input voltage *8)		
		ACIN 100V	0.40typ (CURRENT1	)		· · ·		
	CURRENT[A]	ACIN 200V	0.20typ (CURRENT1	)				
VU VU VU VU VU VU VU VU VU VU	FREQUENCY[Hz]		50/60 (47 - 440) or DC					
		ACIN 100V	74typ (CURRENT1)		78typ (CURRENT1)			
	EFFICIENCY[%]	ACIN 200V	77typ (CURRENT1)		80typ (CURRENT1)			
		ACIN 100V	15typ (CURRENT1)	(At cold start)				
	INRUSH CURRENT[A]	ACIN 200V	30typ (CURRENT1)	(At cold start)				
	LEAKAGE CURRENT[	mA]		100V/240V 60Hz, Io=100%, According to	IEC60950-1,DENAN)			
	VOLTAGE[V]	-	±12	/ ( +24V reference number )	±15	/ ( +30V reference number		
	CURRENT1[A]		0.7	/ 0.7	0.5	/ 0.5		
	CURRENT2[A]	*5	1.4	/-	1.0	/ -		
	LINE REGULATION[m	/] *1	60max	/ 96max	60max	/ 96max		
L	LOAD REGULATION 1	[mV] 🐴	600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2		750max	/-	750max	/-		
		0 to +50°C *1	120max	/ 240max	120max	/ 240max		
DUTPUT	RIPPLE[mVp-p]	-10 - 0°C *1	160max	/ 320max	160max	/ 320max		
		0 to +50°C *1	150max	/ 300max	150max	/ 300max		
	RIPPLE NOISE[mVp-p]	-10 - 0°C *1	180max	/ 360max	180max	/ 360max		
		0 to +50°C		,	150max	,		
	TEMPERATURE REGULATION[mV]	-10 to +50℃	150max		180max			
	DRIFT[mV]	*2	48max		60max			
	START-UP TIME[ms]		200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltag					
	HOLD-UP TIME[ms]		20typ (ACIN 100V, lo=100%)					
	OUTPUT VOLTAGE ADJUSTMEN	T RANGE[V]	0.60 - 13.2 (+V and -V are simultaneously adjusted) 13.2 - 16.5 (+V and -V are simultaneously adjusted)					
	OUTPUT VOLTAGE SET		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					
ROTECTION	OVERVOLTAGE PROTEC		16.8 - 24.0		20.0 - 29.0			
	OPERATING INDICATI		LED (Green)					
DUTPUT R PUTPUT R TE D S S PROTECTION O PROTECTION O D D D D D D D D D D D D D	REMOTE ON/OFF	•	None					
	INPUT-OUTPUT			Cutoff current = 10mA, DC500V 50M $\Omega$ mi	n (At Room Temperature	2)		
NOI ATION	INPUT-FG			Cutoff current = 10mA, DC500V 50M $\Omega$ mi				
PROTECTION CIRCUIT AND CIRCUIT AND CIRCUIT AND CIRCUIT CIRCUIT AND CIRCUIT AND CIRCUIT CIRCUIT AND CIRCUIT AND CIRCUIT CIRCUIT AND CIRCUIT AND CIRCUIT CIRCUIT AND CIRCUIT AND CIRCUIT AND CIRCUIT CIRCUIT AND CIRCUIT AND CIR	OUTPUT-FG			toff current = 25mA, DC500V 50M $\Omega$ min		,		
	OPERATING TEMP., HUMID.AND					max		
	STORAGE TEMP.,HUMID.AND	-	-10 to +71℃ (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max -20 to +75℃, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max					
VIRONMENT	VIBRATION	ALINODE		- 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis				
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis					
	AGENCY APPROVALS (At only	v AC input)			es with DEN-AN			
	CONDUCTED NOISE	, no input)	UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
	HARMONIC ATTENUA	TOR		000-3-2 (Not built-in to active filter $*7$ ) *				
	CASE SIZE/WEIGHT	i un		2 X 3.07 X 3.35 inches] (without terminal blo		max (with cover : 235g max)		
THERS	COOLING METHOD		Convection		un (WATTAD) / 20091	nax (with 60ver . 2009 max)		
			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

- \*5 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.
- \*4 Figures for 0 to rated current 2.The current not measured

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.

PBA/PBW-26

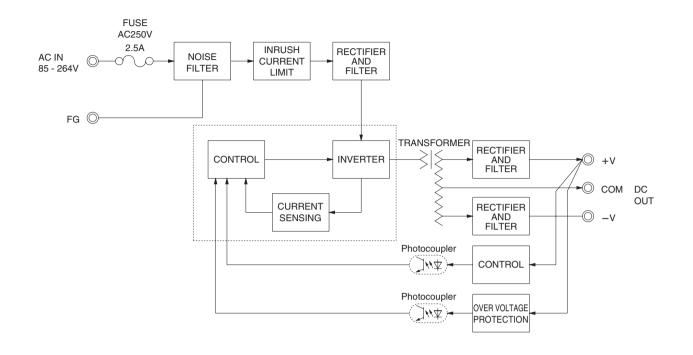
side is fixed.

\*2

\*3

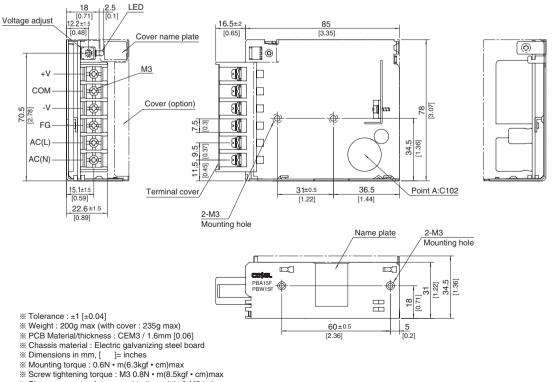
#### June 25, 2020

**Block diagram** 

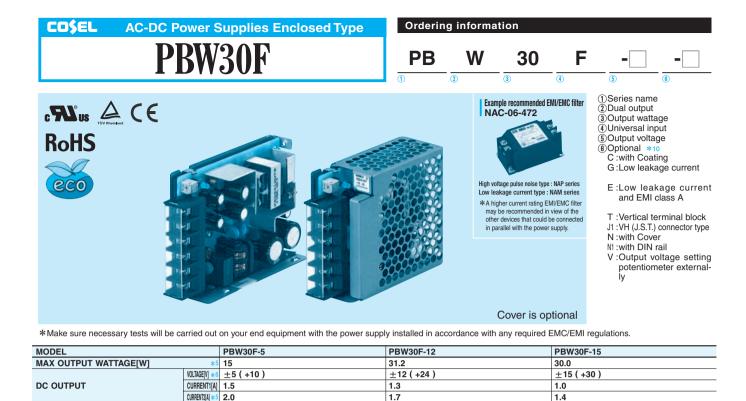


#### **External view**

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



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



#### SPECIFICATIONS

	MODEL		PBW30F-5		PBW30F-12		PBW30F-15			
	VOLTAGE[V]		AC85 - 264 1 φ	or DC110 - 370 (AC50 or	DC70 Please re	efer to the instruction manua	l 1.1 Input volta	ge *8)		
		ACIN 100V	0.4typ (CURRE	0.4typ (CURRENT1) 0.7typ (CURRENT1)						
	CURRENT[A]	ACIN 200V	0.25typ (CURRENT1) 0.4typ (CURRENT1)							
NPUT E NPUT E NPUT E NUTPUT F SOLATION II SOLATION II NVIRONMENT V V	FREQUENCY[Hz]		50/60 (47 - 440	) or DC						
NPUT		ACIN 100V	75typ (CURRENT1)		77typ (CURRE	ENT1)	78typ (CURRE	NT1)		
	EFFICIENCY[%]	ACIN 200V	75typ (CURREI	NT1)	81typ (CURRE	ENT1)	79typ (CURRE	NT1)		
		ACIN 100V	15typ (CURRENT1) (At cold start)							
	INRUSH CURRENT[A]	ACIN 200V	30typ (CURRENT1) (At cold start)							
	LEAKAGE CURRENT[r	nA]	0.30/0.65max (	ACIN 100V/240V 60Hz, Io=	100%, Accordin	ng to IEC60950-1,DENAN)				
	VOLTAGE[V]		±5	/ ( +10V reference number )	±12	/ ( +24V reference number )	±15	/ (+30V reference number		
	CURRENT1[A]		1.5	/ 1.5	1.3	/ 1.3	1.0	/ 1.0		
	CURRENT2[A]	*5	2.0	/ -	1.7	/ -	1.4	/ -		
	LINE REGULATION[m]	/] *11	20max	/ 36max	60max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1	[mV] 👬	250max	/ 100max	600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2	[mV] 👬	500max	/ -	750max	/ -	750max	/ -		
		0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
	RIPPLE[mVp-p]	-10 - 0°C *1	140max	/ 320max	160max	/ 320max	160max	/ 320max		
OUTPUT	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
	RIPPLE NOISE[mvp-p]	-10 - 0°C *1	160max	/ 360max	180max	/ 360max	180max	/ 360max		
	TEMPERATURE REGULATION[mV]	0 to +50℃	50max		120max		150max			
		-10 to +50℃	60max		150max		180max			
	DRIFT[mV] *2				48max		60max			
	START-UP TIME[ms]		200typ(ACIN 100V, lo=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage.							
	HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT							d -V are simultaneously adjusted		
	OUTPUT VOLTAGE SET			and -V CURRENT1)	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 rec		ally				
	OVERVOLTAGE PROTEC		6.90 - 10.0 16.8 - 24.0			20.0 - 29.0				
OTHERS	OPERATING INDICATION	ON	LED (Green)							
	REMOTE ON/OFF		None							
	INPUT-OUTPUT					$\Omega$ min (At Room Temperatu				
SOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 25mA, DC500V 50M $\Omega$ min (At Room Temperature)							
	OPERATING TEMP., HUMID.AND					lensing) 3,000m (10,000feet	) max			
	STORAGE TEMP.,HUMID.AND	ALTITUDE		0 - 90%RH (Non condensir						
	VIBRATION			m/s <sup>2</sup> (2G), 3minutes period		ch along X, Y and Z axis				
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis							
SAFETY AND		/ AC input)								
NOISE	CONDUCTED NOISE			CC Part15 classB, VCCI-E						
REGULATIONS	HARMONIC ATTENUAT	OR		EC61000-3-2 (Not built-in t						
OTHERS	CASE SIZE/WEIGHT			n [1.22 x 3.07 x 4.06 inches	] (without termii	nal block) (W×H×D) / 270	g max (with cov	er : 310g max)		
	COOLING METHOD		Convection							

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

Figures for 0 to rated current 1.The current not measured

\*4 Figures for 0 to rated current 2.The current not measured

- The sum of +power -power must be less than output power. Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
  - \*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.

side is fixed.

- \*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.

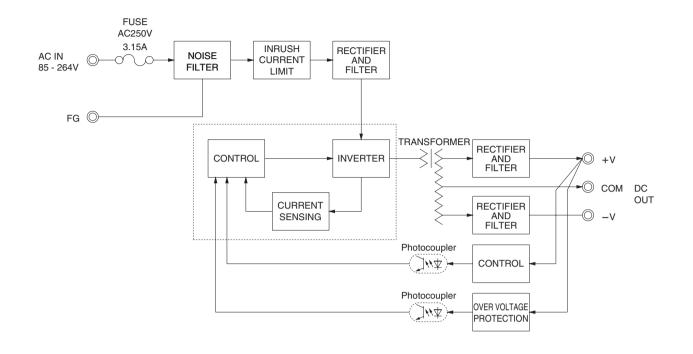
PBA/PBW-28

side is fixed.

\*2

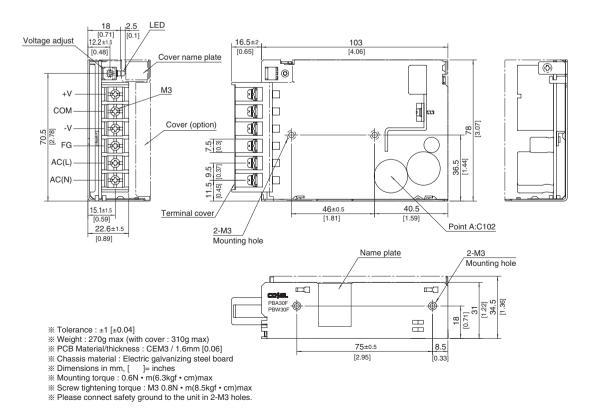
PBW30F | CO\$EL

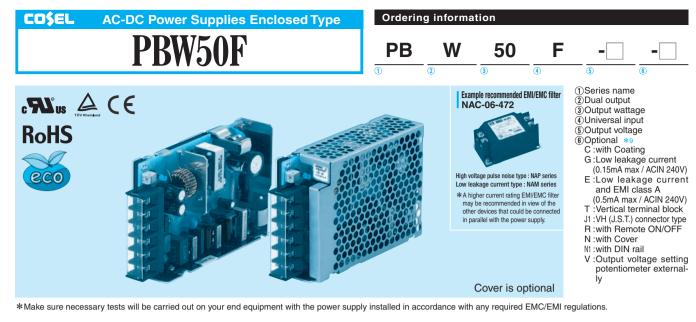
**Block diagram** 



#### **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.





MODEL		PBW50F-5	PBW50F-12	PBW50F-15
MAX OUTPUT WATTAGE[W] *		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

#### **SPECIFICATIONS**

	MODEL		PBW50F-5		PBW50F-12		PBW50F-15			
	VOLTAGE[V]		AC85 - 264 1 φ	or DC120 - 370 (AC50	or DC70 Please refer	to the instruction manua	al 1.1 Input voltage	e *3)		
		ACIN 100V	0.45typ (CURRI	ENT1)	0.70typ (CURREN	T1)				
	CURRENT[A]		0.30typ (CURRENT1) 0.40typ (CURRENT1)							
	FREQUENCY[Hz]		50/60 (47 - 63)							
		ACIN 100V	76typ (CURRENT1)		81typ (CURRENT	1)	81typ (CURREN	IT1)		
NPUT			77typ (CURREN	,	83typ (CURRENT	,	83typ (CURREN	,		
		ACIN 100V		••••	0.99typ	"/		,		
	POWER FACTOR(lo=100%)	ACIN 200V								
			15typ (CURRENT1) (At cold start)							
	INRUSH CURRENT[A]		30typ (CURRENT) (At cold start)							
	LEAKAGE CURRENT[mA]			ACIN 100V/240V 60Hz, I	a 100% According to					
		nAj		/(+10V reference number		/(+24V reference number)	1.15	/ (+30V reference numbe		
	VOLTAGE[V]		±5		· _		±15			
	CURRENT1[A]		3.0	/ 3.0	2.1	/ 2.1	1.7	/ 1.7		
	CURRENT2[A]	*6	4.0	/-	2.7	/-	2.4	/-		
	LINE REGULATION[mV		20max	/ 36max	48max	/ 96max	60max	/ 96max		
	LOAD REGULATION 1[		250max	/ 100max	600max	/ 150max	600max	/ 150max		
	LOAD REGULATION 2		500max	/ -	750max	/ -	750max	/ -		
OUTPUT	RIPPLE[mVp-p]	0 to +50°C *1	80max	/ 240max	120max	/ 240max	120max	/ 240max		
		-10 - 0℃ *1	140max	/ 320max	160max	/ 320max	160max	/ 320max		
	RIPPLE NOISE[mVp-p]	0 to +50°C *1	120max	/ 300max	150max	/ 300max	150max	/ 300max		
		-10 - 0℃ *1	160max	/ 360max	180max	/ 360max	180max	/ 360max		
		0 to +50°C	50max		120max		150max			
	TEMPERATURE REGULATION[mV] -10 to +5		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 RANGE[V]		4.99 - 6.00 (+V and -V are simultaneously adjusted) 9.60 - 13.2 (+V and -V are simultaneously adjusted			13.2 - 16.5 (+V and	-V are simultaneously adjuste			
	OUTPUT VOLTAGE SET		4.99 - 5.30 (+V and -V CURRENT1) 11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -							
	OVERCURRENT PROT			Norks over 105% of rated current and recovers automatically						
PROTECTION	OVERVOLTAGE PROTEC		6.90 - 10.0		16.8 - 24.0		20.0 - 29.0			
CIRCUIT AND	OPERATING INDICATIO		18.80 - 10.0 [20.0 - 29.0]							
OTHERS	REMOTE ON/OFF	511	Optional (Required external power source)							
	INPUT-OUTPUT · RC	*7				in (At Room Tomporatu	ro)			
SOLATION	INPUT-FG	φ./	<sup>7</sup> AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)							
SOLAHON	OUTPUT · RC-FG	*7								
	OPERATING TEMP., HUMID.AND									
		-	· · · · · · · · · · · · · · · · · · ·							
ENVIRONMENT	STORAGE TEMP.,HUMID.AND	ALIIIUUE	-20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	VIBRATION					along $X$ , $Y$ and $Z$ axis				
	IMPACT		196.1m/s <sup>2</sup> (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							
NOISE REGULATIONS	CONDUCTED NOISE		Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B							
REGULATIONS	HARMONIC ATTENUAT	TOR	Complies with IEC61000-3-2 *10							
OTHERS	CASE SIZE/WEIGHT		31 x 82 x 120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (W x H x D) / 280g max (with cover : 325g max)							
	COOLING METHOD		Convection							
meter(equ *2 Drift is the after a hal	by 20MHz oscilloscope or F ivalent to KEISOKU-GIKEN change in DC output for an f-hour warm-up at 25°C. s required.	: RM101).	period *6 *7	Figures for 0 to rated curren side is fixed. The sum of +power -power I RC is applied to remote ON input/output and FG.	must be less than output	option. power. *10Please con	tact us about class ( eration with other mo	del is not possible.		

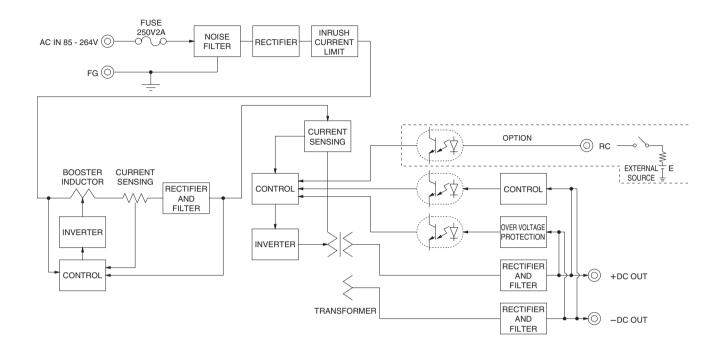
\*8  $\pm 5, \pm 12, \pm 15$  can be used as +10,+24 and +30.

\*4 Figures for 0 to rated current 1.The current not measured side is fixed.

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

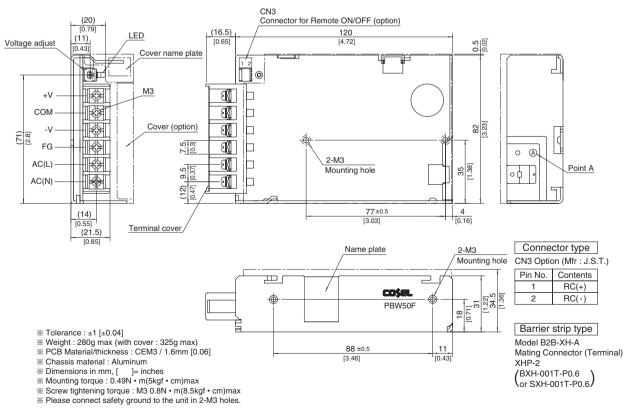
PBW50F | CO\$EL

**Block diagram** 



#### **External view**



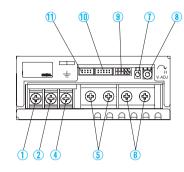


## **COŞEL** | PBA·PBW-series

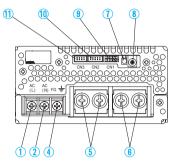
#### **Terminal Blocks**

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

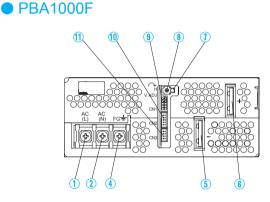
#### PBA300F



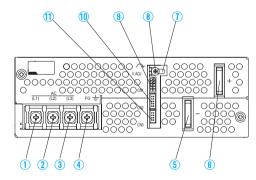
• PBA600F



#### • PBA1500F



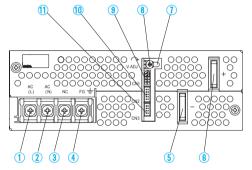
#### PBA1500T



#### \*PBA300F - 1500F

①AC (L) Input Terminals AC85 - 264V \$\phi\$47 - 63Hz
②AC (N) (M4)
③NC
④Frame ground (M4 ±)
⑤-Output
⑥+Output
⑦LED
⑧Output voltage adjustable potentiometer
⑧CN1 ⑩CN2 ①CN3
Connectors
①CN3
\*Please see Optional Parts for dedicated harnesses.

### PBA1500F



#### \*PBA1500T

①AC (L1) ②AC (L2) ③AC (L3) ④Frame ground (M4 ≟) ⑤-Output ⑥+Output ⑦LED ⑧Output voltage adjustable potentiometer ⑧CN1 ⑩CN2 ①CN3

## PBA·PBW-series **COSEL**

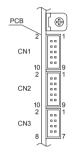


#### Terminal Blocks

#### PBA300F, 600F Pin Configuration

)8	<u>PC</u> 21		21	10	2
	:::		::		:: (
7	1 9 CN3	) CN	1	9 CN	1 11

#### PBA1000F, 1500F Pin Configuration



Pir	Pin Configuration and Functions of CN1 and CN2						
Pin No.		Function					
1	+M	: Self sensing terminal. (Do not wire for external connection.)					
2	+S	: +Sensing					
3	-M	: Self sensing terminal. (Do not wire for external connection.)					
4	-S	: -Sensing					
5	VB	: Voltage balance					
6	CB	: Current balance					
7	TRM	: Adjustment of output voltage					
8	-S	: -Sensing					
9	RC2	: Remote ON/OFF					
10	RCG	: Remote ON/OFF (GND)					

#### Pin Configuration and Functions of CN3

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

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

#### Matching connecters and terminals on CN1, CN2 and CN3

С	onnector	Housing		Terminal	Mfr.
CN1 CN2	S10B-PHDSS	PHDR-10VS	Reel	: SPHD-002T-P0.5 : BPHD-001T-P0.5	
CN3	S8B-PHDSS	PHDR-08VS	Loose	. BFIID-0011-F0.3	

#### **Assembling and Installation Method**

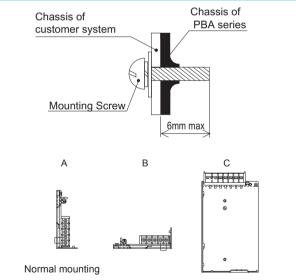
#### Installation Method

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".



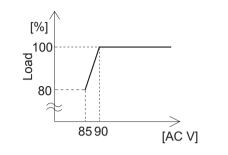
#### PBA300F, PBA600F, PBA1000F, PBA1500F and PBA1500T

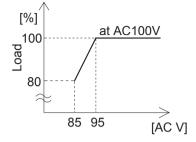
- The power supplies have a built-in forced cooling fan. Do not block ventilation at the suction side (terminal block side) and its opposite side (fan installation side). If you need to secure a power supply by screws, securely fix it, taking into consideration of its weight. You can install it in any 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.

# **COSEL** | PBA·PBW-series

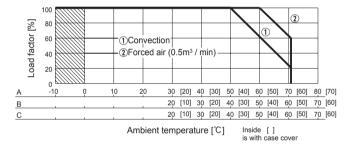
#### Derating

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

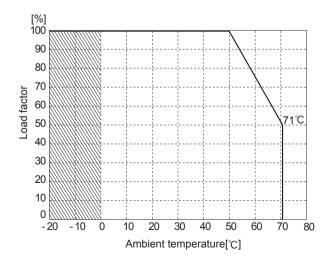


■In the hatched area, the specification of Ripple, Ripple Noise is different from other area.

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



COSEL

#### **Basic Characteristics Data**

Marial		Switching	Input	Rated	Inrush current	PCB/F	Pattern			Parallel availability
Model	Circuit method	frequency [kHz]	current [A]	input fuse	protection circuit	Material	Single sided	Double sided	Series operation	Parallel operation
PBA10F	Flyback converter	100	0.3	250V 2.5A	LF	CEM-3	Yes		Yes	*1
PBA15F	Flyback converter	100	0.4	250V 2.5A	Thermistor	CEM-3	Yes		Yes	*1
PBA30F	Flyback converter	100	0.7	250V 3.15A	Thermistor	CEM-3	Yes		Yes	*1
PBA50F	Active filter	60 - 550	0.7	250V 2A	Thermistor	CEM-3	Yes		Yes	*1
FDADUF	Forward converter	130	0.7	250V 2A	mermistor	CEIVI-3	res		res	* 1
PBA75F	Active filter	60 - 550	1.0		Thermistor	CEM-3	Vaa		Yes	*1
FDA/SF	Forward converter	120	1.0	250V 3.15A	Thermistor	CEIVI-3	Yes		res	* 1
PBA100F	Active filter	60 - 550	1.3	250V 3.15A	Thermister	CEM-3	Yes		Yes	*1
PDATUUF	Forward converter	120	1.5		Thermistor	CEIVI-3	res			* 1
PBA150F	Active filter	60 - 550	2.0	250V 4A	Thermistor	CEM-3	Yes		Yes	
PDAISUF	Forward converter	120				CEIVI-3	res		res	*1
DRADOOE	Active filter	230	4.1	250V 10A	SCR	FR-4		Yes	Yes	Yes
PBA300F	Forward converter	330	4.1			ГП-4		res	res	tes
PBA600F	Active filter	130	8.2	250V 15A	SCR	FR-4		Yes	Vaa	Vaa
FDA0UUF	Forward converter	330	0.2	250V 15A	SUN	FR-4		Yes	Yes	Yes
PBA1000F	Active filter	130	13		SCR	FR-4		Yes	Yes	Yes
PDAIUUUF	Forward converter	280	13	250V 30A	SUN	FN-4		res	res	res
PBA1500F	Active filter	130	19	250V 50A	SCR	FR-4		Yes	Yes	Yes
FDAIDUUF	Forward converter	200	19		SUN	Г <b>П-</b> 4		res	res	tes
PBA1500T	Active filter	130	G	250V 16A	SCR	FR-4		Yes	Vaa	Yes
PBAISUUI	Forward converter	200	6	250V 16A	SCR	FR-4		res	Yes	res
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		Yes		Vaa	
FBWSUF	Forward converter	130	0.7	250V 2A	mermistor	CEM-3	res		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  $\phi$  and rated load in PBA1500T.