







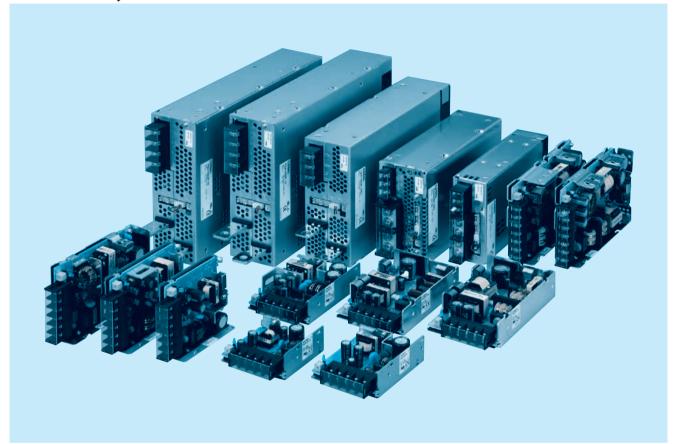








PBA, PBW-series



Feature

Small-size & light weight

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

Variety of option (PBA10F - 150F, PBW15F - 50F)

Parallel operation and Parallel redandancy operation

(PBA300F - 1500F, PBA1500T)

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

Safety agency approvals

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

FMI

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

5-year warranty (refer to Instruction Manual)

CE marking

Low Voltage Directive RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations RoHS Regulations

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

EN61000-4-2

EN61000-4-3

EN61000-4-4

EN61000-4-5

EN61000-4-6

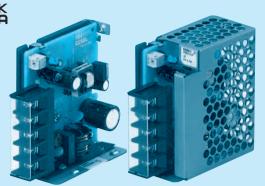
EN61000-4-8

EN61000-4-11

PBA10F

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

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

Cover is optional

- ①Series name ②Single output
- (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating

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

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

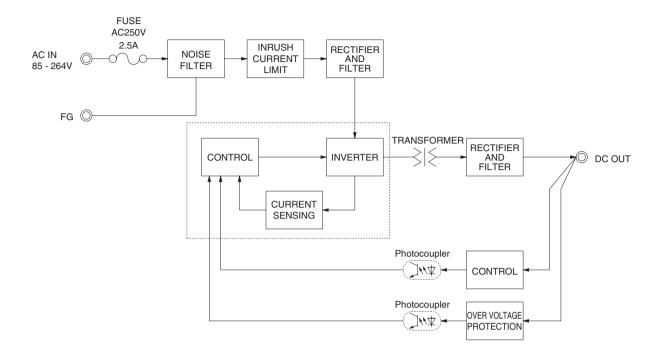
| MODEL | PBA10F-5 | PBA10F-12 | PBA10F-24 |
|-----------------------|----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 10 | 10.8 | 12 |
| DC OUTPUT | 5V 2A | 12V 0.9A | 24V 0.5A |

| | MODEL | | PBA10F-5 | PBA10F-12 | PBA10F-24 | | | | | |
|------------------------|----------------------------|---------------|--|--|---|--|--|--|--|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ or DC110 - 370 (AC5 | 0 or DC70 Please refer to the instruction | on manual 1.1 Input voltage *3) | | | | | |
| | OUDDENITIAL | ACIN 100V | 0.30typ (lo=100%) | | | | | | | |
| | CURRENT[A] | ACIN 200V | 0.20typ (lo=100%) | | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 440) or DC | | | | | | | |
| INPUT | | ACIN 100V | 74typ | 76typ | 77typ | | | | | |
| | EFFICIENCY[%] | ACIN 200V | | 76typ | 77typ | | | | | |
| | | ACIN 100V | 15typ (lo=100%) | | | | | | | |
| | INRUSH CURRENT[A] | ACIN 200V | 30typ (lo=100%) | | | | | | | |
| | LEAKAGE CURREN | T[mA] | 0.15/0.30max (ACIN 100V/240V 60Hz, Io=100%, According to IEC62368-1, DENAN) | | | | | | | |
| | VOLTAGE[V] | | 5 | 12 | 24 | | | | | |
| | CURRENT[A] | | 2 | 0.9 | 0.5 | | | | | |
| | LINE REGULATION[| mV] *6 | 20max | 48max | 96max | | | | | |
| | LOAD REGULATION | [mV] *6 | 40max | 100max | 150max | | | | | |
| | DIDDI Elm/m m³ | 0 to +50°C *1 | 80max | 120max | 120max | | | | | |
| | RIPPLE[mVp-p] | -10 - 0℃ *1 | 140max | 160max | 160max | | | | | |
| | DIDDLE NOICEIV1 | 0 to +50°C *1 | 120max | 150max | 150max | | | | | |
| OUTPUT | RIPPLE NOISE[mVp-p] | -10 - 0℃ *1 | 160max | 180max | 180max | | | | | |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 120max | 240max | | | | | |
| | TEMPERATURE REGULATION[MV] | -10 to +50℃ | 60max | 150max | 290max | | | | | |
| | DRIFT[mV] | *2 | 20max | 48max | 96max | | | | | |
| | START-UP TIME[ms] | | 200typ(ACIN 100V, Io=100%) *Start-up time | is 700ms typ for less than 1minute of applying | g input again from turning off the input voltage. | | | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 100V, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | T RANGE[V] | 4.50 - 5.50 | 10.0 - 13.2 | 19.2 - 27.0 | | | | | |
| | OUTPUT VOLTAGE SET | TING[V] | 5.00 - 5.15 | 12.00 - 12.48 | 24.00 - 24.96 | | | | | |
| | OVERCURRENT PROT | ECTION | Works over 105% of rated current and | recovers automatically | | | | | | |
| PROTECTION CIRCUIT AND | OVERVOLTAGE PROTEC | TION[V] | 5.75 - 7.00 | 15.0 - 18.0 | 30.0 - 37.0 | | | | | |
| OTHERS | OPERATING INDICA | TION | LED (Green) | | | | | | | |
| | REMOTE ON/OFF | | None | | | | | | | |
| | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 1 | 0mA, DC500V 50M Ω min (At Room Te | mperature) | | | | | |
| ISOLATION | INPUT-FG | | AC2,000V 1minute, Cutoff current = 1 | 0mA, DC500V 50M Ω min (At Room Te | mperature) | | | | | |
| | OUTPUT-FG | | | mA, DC500V 50M Ω min (At Room Tem | | | | | | |
| | OPERATING TEMP.,HUMID.AND | ALTITUDE | | - 90%RH (Non condensing) 3,000m (10 | 0,000feet) max | | | | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | -20 to +75℃, 20 - 90%RH (Non cond | | | | | | | |
| LIVINONWENT | VIBRATION | | 10 - 55Hz, 19.6m/s2 (2G), 3minutes p | eriod, 60minutes each along X, Y and 2 | Z axis | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | | UL60950-1, C-UL(CSA60950-1), EN6 | · · · · · · · · · · · · · · · · · · · | | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | |
| REGULATIONS | HARMONIC ATTENU | JATOR | Complies with IEC61000-3-2 (Not buil | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 31 x 78 x 68mm [1.22 x 3.07 x 2.68 inches] (without terminal block) (W x H x D) / 150g max (with cover : 180g max) | | | | | | | |
| OTTLENS | COOLING METHOD | | Convection | | | | | | | |

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

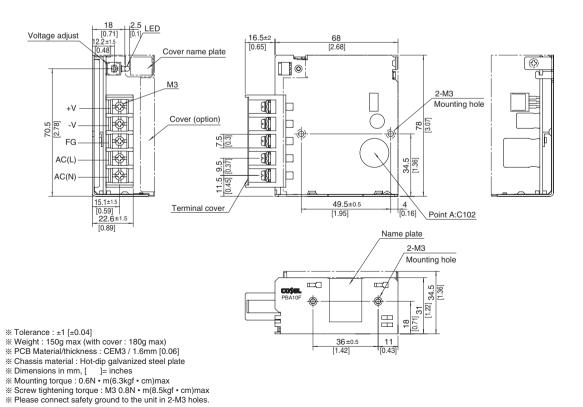
 A sound may occur from power supply at peak loading.





External view

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



PBA15F

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Example recommended EMI/EMC filter NAC-06-472



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

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

Cover is optional

Series name
 Single output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *5
 C:with Coating

G:Low leakage current

E:Low leakage current and EMI class A

T : Vertical terminal block

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

(UL508 is acquired

[5V, 12V, 24V])

N1: with DIN rail and Cover

V:Output voltage setting potentiometer external-

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

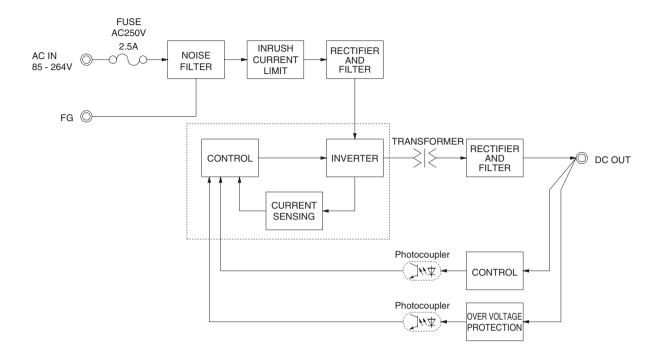
| MODEL | PBA15F-3R3 | PBA15F-5 | PBA15F-9 | PBA15F-12 | PBA15F-15 | PBA15F-24 | PBA15F-48 |
|-----------------------|------------|----------|----------|-----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 9.9 | 15 | 15.3 | 15.6 | 15 | 16.8 | 16.8 |
| DC OUTPUT | 3.3V 3A | 5V 3A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

| | MODEL | | PBA15F-3R3 | PBA15F-5 | PBA15F-9 | PBA15F-12 | PBA15F-15 | PBA15F-24 | PBA15F-48 | | |
|------------------------|------------------------------|---------------|--|---|----------------------|--------------------------|-----------------------|-----------------------|-----------------------|--|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC110 - 370 | (AC50 or DC70 | Please refer to the | ne instruction ma | nual 1.1 Input vo | ltage *3) | | |
| | CURRENT[A] | ACIN 100V | 0.30typ (lo=100%) | 0.4typ (lo=100% | 6) | | | | | | |
| | CONNENT[A] | ACIN 200V | 0.15typ (lo=100%) | 0.2typ (lo=100% | 6) | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 440) | or DC | | | | | | | |
| INPUT | EFFICIENCY[%] | ACIN 100V | 68typ | 74typ | 75typ | 75typ | 77typ | 75typ | 75typ | | |
| | EFFICIENCI[/6] | ACIN 200V | 68typ | 75typ | 77typ | 78typ | 80typ | 78typ | 78typ | | |
| | INRUSH CURRENT[A] | ACIN 100V | 15typ (Io=100% |) (At cold start) | | | | | | | |
| | INNUSTI CUNNENT[A] | ACIN 200V | 30typ (Io=100% |) (At cold start) | | | | | | | |
| | LEAKAGE CURREN | T[mA] | 0.15/0.30max (A | ACIN 100V/240V | 60Hz, lo=100%, | According to IEC | C62368-1,DENAN | ۷) | | | |
| | VOLTAGE[V] | | 3.3 | 5 | 9 | 12 | 15 | 24 | 48 | | |
| | CURRENT[A] | | 3 | 3 | 1.7 | 1.3 | 1 | 0.7 | 0.35 | | |
| | LINE REGULATION[| mV] *6 | 20max | 20max | 36max | 48max | 60max | 96max | 192max | | |
| | LOAD REGULATION | [mV] *6 | 40max | 40max | 100max | 100max | 120max | 150max | 240max | | |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | | |
| | nirrecillivp-pj | -10 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max | | |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max | | |
| OUTPUT | nirree Noise[iiivp-p] | -10 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 300max | | |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | 50max | 50max | 90max | 120max | 150max | 240max | 480max | | |
| | TEMPERATURE REGULATION[IIIV] | -10 to +50℃ | 60max | 60max | 120max | 150max | 180max | 290max | 600max | | |
| | DRIFT[mV] | *2 | 20max | 20max | 36max | 48max | 60max | 96max | 192max | | |
| | START-UP TIME[ms] | | 200typ(ACIN 100V | , Io=100%) * Start-ı | up time is 700ms typ | o for less than 1minu | ite of applying input | again from turning of | off the input voltage | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 10 | 0V, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | range[v] | 2.85 - 3.60 | 4.50 - 5.50 | 7.50 - 10.0 | 10.0 - 13.2 | 13.2 - 18.0 | 19.2 - 27.0 | 39.0 - 53.0 | | |
| | OUTPUT VOLTAGE SET | | 3.30 - 3.40 | 5.00 - 5.15 | 9.00 - 9.36 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 48.00 - 49.92 | | |
| | OVERCURRENT PROT | ECTION | | % of rated curre | nt and recovers a | automatically | | | | | |
| PROTECTION CIRCUIT AND | OVERVOLTAGE PROTEC | TION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 58.0 - 65.0 | | |
| OTHERS | OPERATING INDICA | TION | LED (Green) | | | | | | | | |
| | REMOTE ON/OFF | | None | | | | | | | | |
| | INPUT-OUTPUT | | | | | $00V$ $50M\Omega$ min (A | | | | | |
| ISOLATION | INPUT-FG | | · · | | | $00V$ $50M\Omega$ min (A | | | | | |
| | OUTPUT-FG | | | | | V 50MΩmin (At | | | | | |
| | OPERATING TEMP.,HUMID.AND | | | | | Non condensing) | | feet) max | | | |
| ENVIRONMENT | STORAGE TEMP.;HUMID.AND | ALTITUDE | | | | 00m (30,000feet) | | | | | |
| | VIBRATION | | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | | | | |
| SALLII AND | AGENCY APPROVALS (At only | | | | | nplies with DEN- | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | | |
| REGULATIONS | HARMONIC ATTENU | ATOR | Complies with IEC61000-3-2 (Not built-in to active filter *4) *7 | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | | [1.22×3.07×3.0 | 35 inches] (witho | ut terminal block) | (W×H×D) / 20 | 00g max (with co | ver : 235g max) | | |
| O.71E110 | COOLING METHOD | | Convection | | | | | | | | |

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

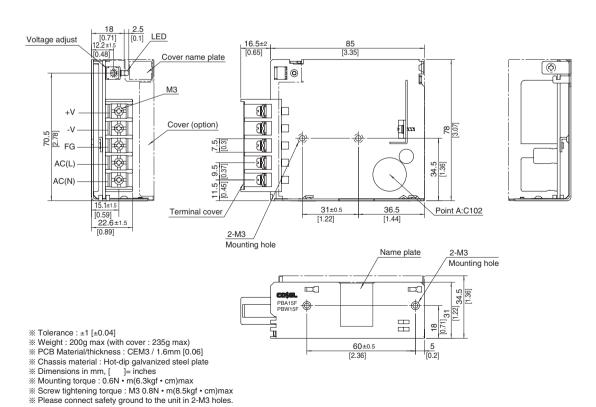
 A sound may occur from power supply at peak loading.





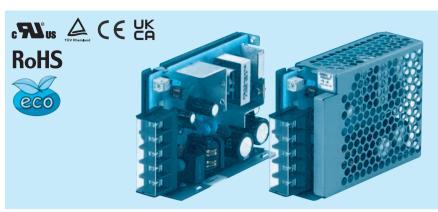
External view

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



PBA30F

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Example recommended EMI/EMC filter NAC-06-472

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

*A higher current rating EMI/EMC filter

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

Cover is optional

(3) Output wattage 4 Universal input

⑤Output voltage Optional *5
 C:with Coating

Series name
 Single output

G:Low leakage current E:Low leakage current and EMI class A

T : Vertical terminal block

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

(UL508 is acquired

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

V:Output voltage setting potentiometer external-

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

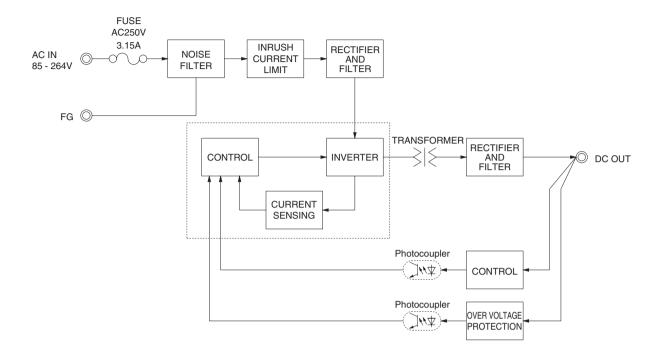
| MODEL | PBA30F-3R3 | PBA30F-5 | PBA30F-9 | PBA30F-12 | PBA30F-15 | PBA30F-24 | PBA30F-48 |
|-----------------------|------------|----------|----------|-----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 19.8 | 30 | 30.6 | 30 | 30 | 31.2 | 31.2 |
| DC OUTPUT | 3.3V 6A | 5V 6A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

| | MODEL | | PBA30F-3R3 | PBA30F-5 | PBA30F-9 | PBA30F-12 | PBA30F-15 | PBA30F-24 | PBA30F-48 | | |
|------------------------|-----------------------------|---------------|--|--|----------------------|--------------------------|-----------------------|-----------------------|-----------------------|--|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC110 - 370 | (AC50 or DC70 | Please refer to the | ne instruction ma | nual 1.1 Input vo | ltage *3) | | |
| | CURRENT[A] | ACIN 100V | 0.50typ (lo=100%) | 0.70typ (lo=100 | %) | | | | | | |
| | CONNENT[A] | ACIN 200V | 0.30typ (lo=100%) | 0.40typ (lo=100 | %) | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 440) | or DC | | | | | | | |
| INPUT | EFFICIENCY[%] | ACIN 100V | 68typ | 74typ | 75typ | 76typ | 78typ | 78typ | 79typ | | |
| | EFFICIENCI[/6] | ACIN 200V | 69typ | 77typ | 77typ | 78typ | 81typ | 81typ | 81typ | | |
| | INRUSH CURRENT[A] | ACIN 100V | 15typ (Io=100% |) (At cold start) | | | | | | | |
| | INNUSTI CUNNENT[A] | ACIN 200V | 30typ (Io=100% |) (At cold start) | | | | | | | |
| | LEAKAGE CURREN | T[mA] | 0.30/0.65max (A | ACIN 100V/240V | 60Hz, lo=100%, | According to IEC | C62368-1,DENAN | 1) | | | |
| | VOLTAGE[V] | | 3.3 | 5 | 9 | 12 | 15 | 24 | 48 | | |
| | CURRENT[A] | | 6 | 6 | 3.4 | 2.5 | 2 | 1.3 | 0.65 | | |
| | LINE REGULATION[| mV] *6 | 20max | 20max | 36max | 48max | 60max | 96max | 192max | | |
| | LOAD REGULATION | [mV] *6 | 40max | 40max | 100max | 100max | 120max | 150max | 240max | | |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | | |
| | nirrcc[iiivp-p] | -10 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max | | |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max | | |
| OUTPUT | MIPPLE NOISE[IIIVP-P] | -10 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 300max | | |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | 50max | 50max | 90max | 120max | 150max | 240max | 480max | | |
| | TEMPERATURE REGULATION[IIV] | -10 to +50℃ | 60max | 60max | 120max | 150max | 180max | 290max | 600max | | |
| | DRIFT[mV] | *2 | 20max | 20max | 36max | 48max | 60max | 96max | 192max | | |
| | START-UP TIME[ms] | | 200typ(ACIN 100V | , Io=100%) * Start-ı | up time is 700ms typ | o for less than 1minu | ite of applying input | again from turning of | off the input voltage | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 10 | 0V, Io=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | range[v] | 2.85 - 3.60 | 4.50 - 5.50 | 7.50 - 10.0 | 10.0 - 13.2 | 13.2 - 18.0 | 19.2 - 27.0 | 39.0 - 53.0 | | |
| | OUTPUT VOLTAGE SET | | 3.30 - 3.40 | 5.00 - 5.15 | 9.00 - 9.36 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 48.00 - 49.92 | | |
| | OVERCURRENT PROT | ECTION | | % of rated curre | nt and recovers a | automatically | | | | | |
| PROTECTION CIRCUIT AND | OVERVOLTAGE PROTEC | TION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 58.0 - 65.0 | | |
| OTHERS | OPERATING INDICA | TION | LED (Green) | | | | | | | | |
| | REMOTE ON/OFF | | None | | | | | | | | |
| | INPUT-OUTPUT | | | | | $00V$ $50M\Omega$ min (A | | | | | |
| ISOLATION | INPUT-FG | | · · | | | $00V$ $50M\Omega$ min (A | | , | | | |
| | OUTPUT-FG | | | | | V 50MΩmin (At | | | | | |
| - | OPERATING TEMP., HUMID. AND | | | | | Non condensing) | | eet) max | | | |
| ENVIRONMENT | STORAGE TEMP.;HUMID.AND | ALTITUDE | | | | 00m (30,000feet) | | | | | |
| | VIBRATION | | | 0 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each X, Y and Z axis | | | | | | | | |
| SALLII AND | AGENCY APPROVALS (At only | | | | | nplies with DEN- | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | | |
| REGULATIONS | HARMONIC ATTENU | | <u> </u> | EC61000-3-2 (No | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | | n [1.22×3.07×4 | .06 inches] (with | out terminal blocl | k) (W×H×D) / 2 | 70g max (with co | over : 310g max) | | |
| 0.71L110 | 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.
- contact us for details.
- *4 When two or more units are used,they may not comply with the harmonic attenuator. Please
- *5 Please contact us about safety approvals for the model with option.
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- Please contact us about class C.
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- Derating is required when operated with cover.

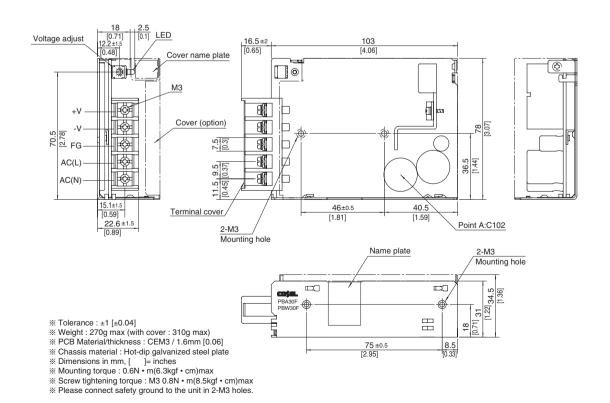
 A sound may occur from power supply at peak loading.





External view

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



PBA50F

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c**¶**°us ≜ CE UK **RoHS** eco

Example recommended EMI/EMC filter NAC-06-472



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

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

- ①Series name ②Single output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V)
- T :Vertical terminal block J1 :VH (J.S.T.) connector type
- R:with Remote ON/OFF
- N :with Cover (Only 24V UL508 is acquired) N1 :with DIN rail and Cover
- V:Output voltage setting potentiometer external-

Cover is optional

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

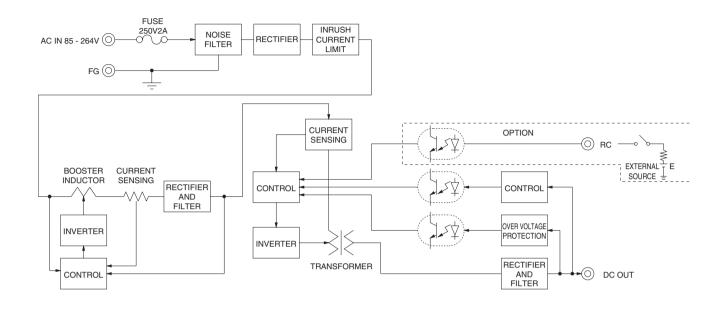
| MODEL | PBA50F-3R3 | PBA50F-5 | PBA50F-9 | PBA50F-12 | PBA50F-15 | PBA50F-24 | PBA50F-36 | PBA50F-48 |
|-----------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 33 | 50 | 50.4 | 51.6 | 52.5 | 52.8 | 50.4 | 52.8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

| | MODEL | | PBA50F-3R3 | PBA50F-5 | PBA50F-9 | PBA50F-12 | PBA50F-15 | PBA50F-24 | PBA50F-36 | PBA50F-48 | |
|------------------------|----------------------------|-----------------------|--|-------------------|-------------------|-------------------|-------------------|------------------|------------------|---------------|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 37 | 0 (AC50 or DC7 | Please refer to | the instruction r | nanual 1.1 Input | voltage *4) | | |
| | CURRENT[A] | ACIN 100V | 0.5typ | 0.7typ | | | | | | | |
| | CURRENT[A] | ACIN 200V | 0.3typ | 0.4typ | | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 75typ | 80typ | 79typ | 80typ | 81typ | 82typ | 83typ | 83typ | |
| INPUT | EFFICIENCY[%] | ACIN 200V | 76typ | 82typ | 81typ | 82typ | 83typ | 84typ | 85typ | 85typ | |
| | POWER FACTOR(Io=100%) | ACIN 100V | 0.98typ | 0.99typ | | | | | | | |
| | POWER FACTOR(IO=100%) | ACIN 200V | 0.87typ | 0.93typ | | | | | | | |
| | INRUSH CURRENT[A] | ACIN 100V | 15typ (lo=100% |) (At cold start) | | | | | | | |
| | INKUSH CUKKENT[A] | ACIN 200V | 30typ (lo=100%) (At cold start) | | | | | | | | |
| | LEAKAGE CURRENT[r | nA] | 0.4/0.75max (A | CIN 100V/240V | 60Hz, lo=100%, | According to IE | C62368-1,DENA | N) | | | |
| | VOLTAGE[V] | | 3.3 | 5 | 9 | 12 | 15 | 24 | 36 | 48 | |
| | CURRENT[A] | | 10 | 10 | 5.6 | 4.3 | 3.5 | 2.2 | 1.4 | 1.1 | |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 100max | 100max | 120max | 150max | 240max | 240max | |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max | |
| | RIPPLE[IIIVP-P] | -10 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max | 200max | |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C * 1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max | 250max | |
| OUTPUT | RIPPLE NOISE[IIIVP-P] | -10 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 300max | 300max | |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | 50max | 50max | 90max | 120max | 150max | 240max | 360max | 480max | |
| | | -10 to +50℃ | 60max | 60max | 120max | 150max | 180max | 290max | 450max | 600max | |
| | DRIFT[mV] *2 | | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | |
| | START-UP TIME[ms] | | 350typ(ACIN 100V, Io=100%) | | | | | | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 10 | | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | FRANGE[V] | 2.85 - 3.63 | 4.00 - 5.50 | 7.50 - 10.0 | 10.0 - 13.2 | 13.2 - 18.0 | 19.2 - 27.0 | 28.8 - 39.6 | 39.0 - 53.0 | |
| | OUTPUT VOLTAGE SET | TING[V] | 3.30 - 3.40 | 5.00 - 5.15 | 9.00 - 9.36 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 35.00 - 37.44 | 48.00 - 49.92 | |
| | OVERCURRENT PROT | | | | | automatically | | | | | |
| PROTECTION CIRCUIT AND | OVERVOLTAGE PROTEC | TION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 43.0 - 50.0 | 58.0 - 65.0 | |
| OTHERS | OPERATING INDICATION | NC | LED (Green) | | | | | | | | |
| | REMOTE ON/OFF | | Optional (Requ | | | | | | | | |
| | INPUT-OUTPUT · RC | *3 | | | | 500V 50MΩmin | | | | | |
| ISOLATION | INPUT-FG | | | | | 500V 50MΩmin | · | | | | |
| | OUTPUT · RC-FG | *3 | | | | 00V 50MΩmin (| | | | | |
| | OPERATING TEMP.,HUMID.AND | | | | | (Non condensing | | 00feet) max | | | |
| ENVIRONMENT | STORAGE TEMP., HUMID.AND | ALTITUDE | | | | 000m (30,000fee | | | | | |
| Littinoninen | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | | |
| | IMPACT | | | | each X, Y and Z | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | / AC input) | UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN | | | | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | | |
| REGULATIONS | HARMONIC ATTENUAT | TOR | Complies with IEC61000-3-2 *6 31 x 82 x 120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (Wx Hx D) / 280g max (with cover : 325g max) | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | | m [1.22 × 3.23 × | 4.72 inches] (wit | hout terminal blo | ock) (W×H×D) | 280g max (wit | h cover : 325g m | ax) | |
| | COOLING METHOD | | Convection | | | | | | | | |

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

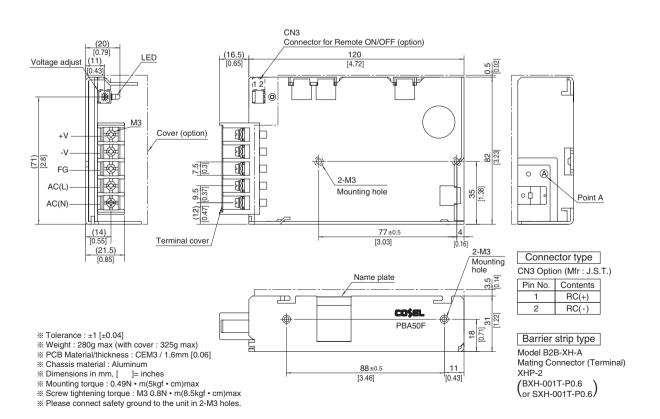
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





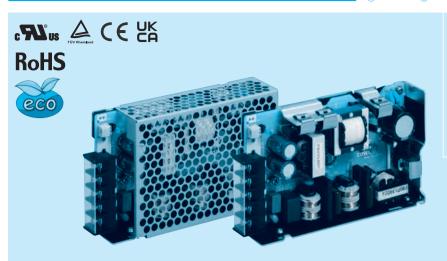
External view

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



PBA75F

75 F -5



Example recommended EMI/EMC filter NAC-06-472



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

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

- ①Series name ②Single output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V)
 - T :Vertical terminal block
- J1 :VH (J.S.T.) connector type
- R:with Remote ON/OFF
- N :with Cover (Only 24V UL508 is acquired) N1 :with DIN rail and Cover
- V:Output voltage setting potentiometer external-

Cover is optional

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

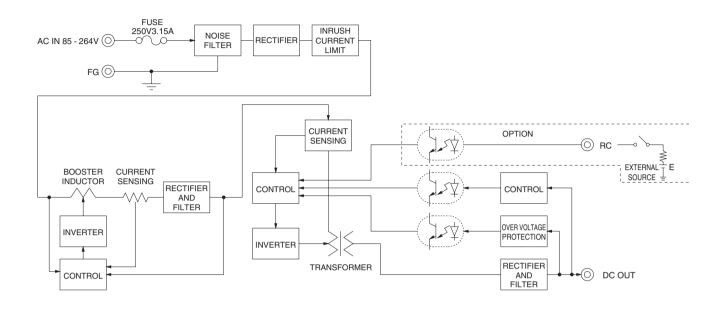
| MODEL | PBA75F-3R3 | PBA75F-5 | PBA75F-9 | PBA75F-12 | PBA75F-15 | PBA75F-24 | PBA75F-36 | PBA75F-48 |
|-----------------------|------------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| MAX OUTPUT WATTAGE[W] | 49.5 | 75 | 75.6 | 75.6 | 75 | 76.8 | 75.6 | 76.8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

| | MODEL | | PBA75F-3R3 | PBA75F-5 | PBA75F-9 | PBA75F-12 | PBA75F-15 | PBA75F-24 | PBA75F-36 | PBA75F-48 | |
|------------------------|----------------------------|-----------------------|--|--|-------------------|-------------------|-------------------|------------------|------------------|---------------|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 37 | 0 (AC50 or DC70 | Please refer to | the instruction r | nanual 1.1 Input | voltage *4) | | |
| | CURRENT[A] | ACIN 100V | 0.7typ | 1.0typ | | | | | | | |
| | CORRENT[A] | ACIN 200V | 0.4typ | 0.5typ | | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 77typ | 81typ | 80typ | 81typ | 82typ | 83typ | 84typ | 84typ | |
| INPUT | EFFICIENCY[%] | ACIN 200V | 78typ | 83typ | 82typ | 83typ | 84typ | 85typ | 86typ | 86typ | |
| | POWER FACTOR(Io=100%) | ACIN 100V | 0.98typ | 0.99typ | | | | | | | |
| | POWER FACTOR(IO=100%) | ACIN 200V | 0.87typ | 0.93typ | | | | | | | |
| | INRUSH CURRENT[A] | ACIN 100V | 15typ (lo=100% |) (At cold start) | | | | | | | |
| | INNUSH 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 | C62368-1,DENA | N) | | | |
| | VOLTAGE[V] | | 3.3 | 5 | 9 | 12 | 15 | 24 | 36 | 48 | |
| | CURRENT[A] | | 15 | 15 | 8.4 | 6.3 | 5 | 3.2 | 2.1 | 1.6 | |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 100max | 100max | 120max | 150max | 240max | 240max | |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max | |
| | RIPPLE[IIIVP-P] | -10 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max | 200max | |
| | DIDDLE NOICEIV1 | 0 to +50°C * 1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max | 250max | |
| OUTPUT | JT 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] | 3.30 - 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 | | automatically | | | | | |
| PROTECTION CIRCUIT AND | OVERVOLTAGE PROTEC | TION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 43.0 - 50.0 | 58.0 - 65.0 | |
| OTHERS | OPERATING INDICATION | NC | LED (Green) | | | | | | | | |
| | REMOTE ON/OFF | | | ired external por | | | | | | | |
| | INPUT-OUTPUT · RC | *3 | | | | 500V 50MΩmin | | | | | |
| ISOLATION | INPUT-FG | | AC2,000V 1mir | ute, Cutoff curre | ent = 10mA, DC | 500V 50MΩmin | (At Room Tempe | erature) | | | |
| | OUTPUT · RC-FG | *3 | | | | 00V 50MΩmin (| | | | | |
| | OPERATING TEMP.,HUMID.AND | ALTITUDE | | | | (Non condensing | | 00feet) max | | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | | | | 000m (30,000fee | | | | | |
| LI44IHOMWEN1 | VIBRATION | | | | | minutes each ald | ong X, Y and Z a | axis | | | |
| | IMPACT | | | 196.1m/s² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | / AC input) | | | | mplies with DEN | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | | |
| REGULATIONS | HARMONIC ATTENUAT | OR | Complies with IEC61000-3-2 *6 | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 32 × 82 × 135m | m [1.26 × 3.23 × | 5.31 inches] (wit | hout terminal blo | ock) (W×H×D) | 350g max (wit | h cover : 400g m | ax) | |
| OTTIETIO | COOLING METHOD | | | | | | | | | | |

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

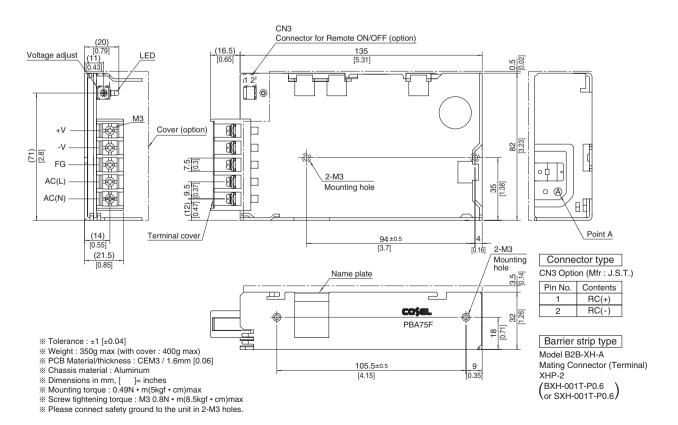
- *5 Please contact us about safety approvals for the model with option.
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- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





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.



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Ordering information

PBA100F

100

Example recommended EMI/EMC filter NAC-06-472



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

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

- ①Series name ②Single output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating
 - G:Low leakage current (0.15mA max / ACIN 240V)
 - E:Low leakage current and EMI class A (0.5mA max / ACIN 240V) T:Vertical terminal block
 - J1 :VH (J.S.T.) connector type
 - (Only -12,-15,-24,-36,-48) R:with Remote ON/OFF
- N:with Cover
- (Only 24V UL508 is acquired)
- N1 :with DIN rail and Cover
- V:Output voltage setting potentiometer external-

Cover is optional

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

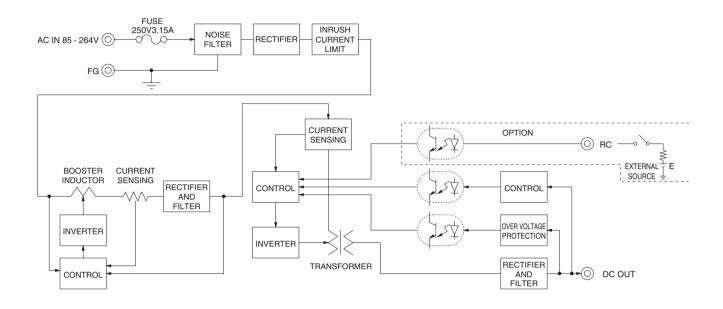
| MODEL | PBA100F-3R3 | PBA100F-5 | PBA100F-9 | PBA100F-12 | PBA100F-15 | PBA100F-24 | PBA100F-36 | PBA100F-48 |
|-----------------------|-------------|-----------|-----------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 66 | 100 | 94.5 | 102 | 105 | 108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

| | MODEL | | PBA100F-3R3 | PBA100F-5 | PBA100F-9 | PBA100F-12 | PBA100F-15 | PBA100F-24 | PBA100F-36 | PBA100F-48 | | |
|-------------|-----------------------------|-----------------------|--|---------------------------------|-------------------|-------------------|-------------------|------------------|------------------|---------------|--|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 370 | 0 (AC50 or DC7 | Please refer to | the instruction r | nanual 1.1 Input | voltage *4) | | | |
| | OUDDENTIAL | ACIN 100V | 0.9typ | 1.3typ | | | | | | | | |
| | CURRENT[A] | ACIN 200V | 0.5typ | 0.7typ | | | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | | | |
| | EEEIOIENOVI0/1 | ACIN 100V | 77typ | 82typ | 80typ | 81typ | 83typ | 84typ | 84typ | 84typ | | |
| INPUT | EFFICIENCY[%] | ACIN 200V | 79typ | 84typ | 82typ | 83typ | 86typ | 86typ | 86typ | 86typ | | |
| | DOWED FACTOR/L- 4000() | ACIN 100V | 0.98typ | 0.99typ | • | | | | | | | |
| | POWER FACTOR(Io=100%) | ACIN 200V | | 0.93typ | | | | | | | | |
| | INDUCU CUDDENTIAL | ACIN 100V | 20typ (lo=100% | (At cold start) | | | | | | | | |
| | | ACIN 200V | | 40typ (lo=100%) (At cold start) | | | | | | | | |
| | LEAKAGE CURRENT[r | nA] | 0.4/0.75max (ACIN 100V/240V 60Hz, lo=100%, According to IEC62368-1, DENAN) | | | | | | | | | |
| | VOLTAGE[V] | | 3.3 | 5 | 9 | 12 | 15 | 24 | 36 | 48 | | |
| | CURRENT[A] | | 20 | 20 | 10.5 | 8.5 | 7 | 4.5 | 2.8 | 2.1 | | |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | | |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 100max | 100max | 120max | 150max | 240max | 240max | | |
| | DIDDI Elm\/n n1 | 0 to +50°C * 1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max | | |
| | RIPPLE[mVp-p] | -10 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max | 200max | | |
| | DIDDLE MOIOEL W | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max | 250max | | |
| OUIPUI | RIPPLE NOISE[mVp-p] | -10 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 300max | 300max | | |
| | -1 | 0 to +50℃ | 50max | 50max | 90max | 120max | 150max | 240max | 360max | 480max | | |
| | | -10 to +50℃ | 60max | 60max | 120max | 150max | 180max | 290max | 450max | 600max | | |
| | DRIFT[mV] | *2 | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | | |
| | START-UP TIME[ms] | | 350typ(ACIN 10 | 00V, lo=100%) | | | | | • | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 10 | 0V, lo=100%) | | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | FRANGE[V] | 2.85 - 3.63 | 4.00 - 5.50 | 7.50 - 10.0 | 10.0 - 13.2 | 13.2 - 18.0 | 19.2 - 27.0 | 28.8 - 39.6 | 39.0 - 53.0 | | |
| | OUTPUT VOLTAGE SET | TING[V] | 3.20 - 3.40 | 5.00 - 5.15 | 9.00 - 9.36 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 36.00 - 37.44 | 48.00 - 49.92 | | |
| | OVERCURRENT PROT | ECTION | Works over 105 | % of rated curre | ent and recovers | automatically | | | | | | |
| PROTECTION | OVERVOLTAGE PROTEC | TION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 43.0 - 50.0 | 58.0 - 65.0 | | |
| CIRCUIT AND | OPERATING INDICATION | NC | LED (Green) | | | | | | | | | |
| OTHERS | REMOTE SENSING | | Optional (Only | -3R3, -5 Option | -K) | | | | | | | |
| | REMOTE ON/OFF | | Optional (Requ | ired external pov | wer source) | | | | | | | |
| | INPUT-OUTPUT · RC | *3 | AC3,000V 1mir | ute, Cutoff curre | ent = 10mA, DC | 500V 50MΩmin | (At Room Tempe | erature) | | | | |
| ISOLATION | INPUT-FG | | AC2,000V 1mir | ute, Cutoff curre | ent = 10mA, DC | 500V 50MΩmin | (At Room Tempe | erature) | | | | |
| | OUTPUT · RC-FG | *3 | AC500V 1minu | te, Cutoff curren | t = 100mA, DC5 | 00V 50MΩmin | At Room Tempe | rature) | | | | |
| | OPERATING TEMP., HUMID. AND | ALTITUDE | -10 to +71°C (F | Refer to "Derating | j"), 20 - 90%RH | (Non condensing | g) 3,000m (10,00 | Ofeet) max | | | | |
| ENVIRONMENT | STORAGE TEMP., HUMID. AND | ALTITUDE | -20 to +75°C, 2 | 0 - 90%RH (Nor | n condensing) 9, | 000m (30,000fee | et) max | | | | | |
| ENVIRONMENT | VIBRATION | | 10 - 55Hz, 19.6 | 6m/s ² (2G), 3mi | nutes period, 60 | minutes each ald | ong X, Y and Z a | axis | | | | |
| | IMPACT | | 196.1m/s ² (200 | a), 11ms, once e | each X, Y and Z | axis | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | / AC input) | UL60950-1, C-I | JL(CSA60950-1 |), EN62368-1 Co | mplies with DEI | N-AN | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | | | |
| REGULATIONS | HARMONIC ATTENUAT | | | Complies with IEC61000-3-2 *6 | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 32×93×147m | m [1.26 × 3.66 × | 5.79 inches] (wit | hout terminal blo | ock) (W×H×D) | 440g max (wit | h cover : 500g m | ax) | | |
| OTHERS | COOLING METHOD | | | | | | | | | | | |

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

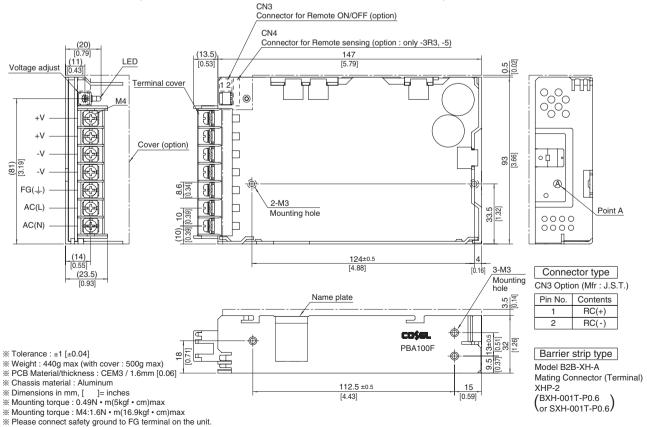
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover A sound may occur from power supply at peak loading.





External view

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



PBA150F

150



Example recommended EMI/EMC filter NAC-06-472



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

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

- ①Series name ②Single output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *5
 C:with Coating

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

Cover is optional

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

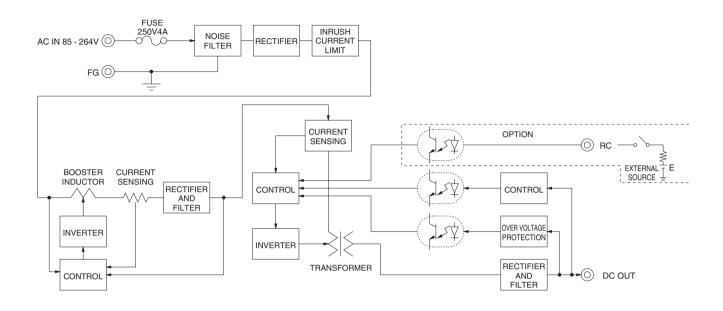
| MODEL | PBA150F-3R3 | PBA150F-5 | PBA150F-9 | PBA150F-12 | PBA150F-15 | PBA150F-24 | PBA150F-36 | PBA150F-48 |
|-----------------------|-------------|-----------|-----------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 99 | 150 | 150.3 | 156 | 150 | 156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

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

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

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

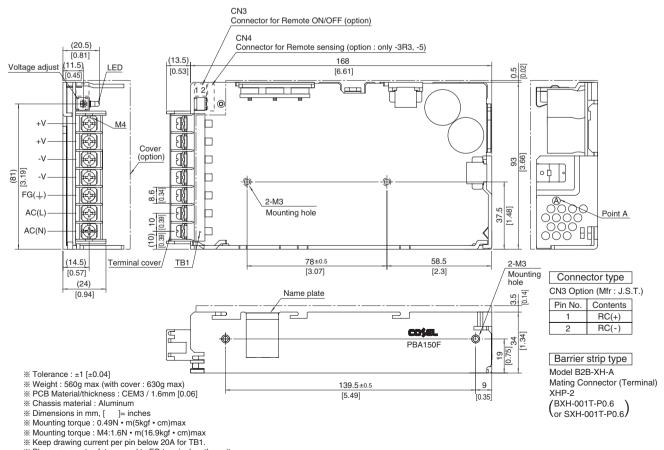




External view

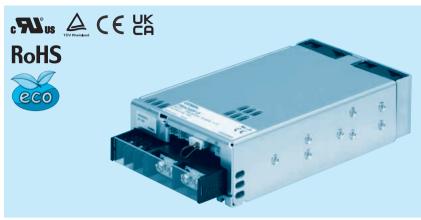
※ Please connect safety ground to FG terminal on the unit.

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



PBA300F

300



Example recommended EMI/EMC filter NAC-06-472

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

*A higher current rating EMI/EMC filter

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

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

5 Output voltage

- Optional *5
 C:with Coating
 - G:Low leakage current
 U:Operation stop voltage
- is set at a lower value
- F3:Reverse air exhaust
- type F4:Low speed fan
- N1 :with DIN rail

Refer to instruction manual

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

| MODEL | | PBA300F-3R3 | PBA300F-5 | PBA300F-7R5 | PBA300F-12 | PBA300F-15 | PBA300F-24 | PBA300F-36 | PBA300F-48 |
|-----------------------|--------------|-------------|-----------|-------------|------------|------------|---------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | | 198 | 300 | 300 | 324 | 330 | 336 | 324 | 336 |
| ACIN 10 | | 3.3V 60A | 5V 60A | 7.5V 40A | 12V 27A | 15V 22A | 24V 14A | 36V 9A | 48V 7A |
| DC OUTPUT | ACIN 200V *3 | 3.3V 60A | 5V 60A | 7.5V 40A | 12V 27A | 15V 22A | 24V 14(16.5)A | 36V 9A | 48V 7A |

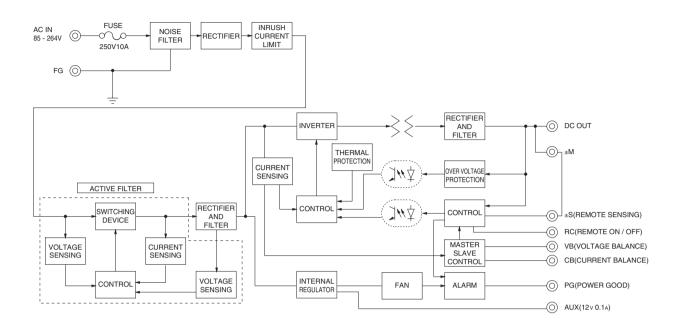
SPECIFICATIONS

| | MODEL | | PBA300F-3R3 | PBA300F-5 | PBA300F-7R5 | PBA300F-12 | PBA300F-15 | PBA300F-24 | PBA300F-36 | PBA300F-48 |
|----------------------|------------------------------|---------------|---|------------------|-------------------|--------------------|-------------------|--------------------|---------------------|--------------------|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 350 | 0 (AC50 or DC70 | Please refer to | the instruction r | nanual 7. option | *4) | |
| | CURRENT[A] | ACIN 100V | 3typ | 4.1typ | | | | | | |
| | CONNENTIAL | ACIN 200V | 1.6typ | 2typ | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 68typ | 74typ | 76typ | 78typ | 78typ | 79typ | 81typ | 79typ |
| INPUT | EFFICIENCI[/6] | ACIN 200V | 71typ | 77typ | 79typ | 81typ | 81typ | 82typ | 84typ | 82typ |
| | POWER FACTOR | ACIN 100V | 0.98typ (lo=100 |)%) | | | | | | |
| | POWER FACTOR | | 0.95typ (Io=100 | | | | | | | |
| | INRUSH CURRENT[A] | ACIN 100V | | | rush current /Se | | | | | |
| | INNOSTI CONNENT[A] | ACIN 200V | 40/40typ (lo=10 | 00%) (Primary in | rush current /Se | condary inrush o | current) (More th | en 3 sec. to re-s | start) | |
| | LEAKAGE CURRENT[r | nA] | 0.45/0.75max (| ACIN 100V/240\ | / 60Hz, lo=100% | According to II | EC62368-1,DEN | AN) | | |
| | VOLTAGE[V] | | 3.3 | 5 | 7.5 | 12 | 15 | 24 | 36 | 48 |
| | CURRENT[A] | ACIN 100V | 60 | 60 | 40 | 27 | 22 | 14 | 9 | 7 |
| | CURRENT[A] | ACIN 200V *3 | 60 | 60 | 40 | 27 | 22 | 14(16.5) | 9 | 7 |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 60max | 100max | 120max | 150max | 150max | 300max |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max |
| | RIPPLE[IIIVP-P] | -20 - 0°C *1 | 140max | 140max | 160max | 160max | 160max | 160max | 160max | 400max |
| OUTPUT | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 200max | 200max |
| OUTFUT | MIPPLE NOISE[IIIVP-P] | -20 - 0°C *1 | 160max | 160max | 180max | 180max | 180max | 180max | 240max | 500max |
| | 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] | *2 | 12max | 20max | 30max | 48max | 60max | 96max | 144max | 192max |
| | START-UP TIME[ms] | | | | | 500ms typ for less | than 1minute of a | applying input aga | in from turning off | the input voltage. |
| | HOLD-UP TIME[ms] | | | 0/200V, lo=1009 | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | | 2.64 - 3.96 | 3.96 - 6.00 | 5.25 - 8.25 | 8.25 - 13.20 | 10.50 - 16.50 | 16.50 - 26.40 | 25.20 - 39.60 | 38.40 - 56.00 |
| | OUTPUT VOLTAGE SET | | 3.30 - 3.40 | 5.00 - 5.15 | 7.50 - 7.80 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 36.00 - 37.44 | 48.00 - 49.92 |
| | OVERCURRENT PROT | | | | ent or 101% of p | | | | | |
| PROTECTION | OVERVOLTAGE PROTEC | | 4.3 - 6.3 | 6.5 - 8.0 | 9.0 - 11.6 | 14.4 - 18.6 | 18.0 - 23.3 | 28.8 - 37.2 | 43.2 - 54.0 | 57.6 - 80.0 |
| CIRCUIT AND OTHERS | OPERATING INDICATION | ON | LED (Green) | | | | | | | |
| OTHERS | REMOTE SENSING | | Provided | | | | | | | |
| | REMOTE ON/OFF | | Provided | | | | , | | | |
| | INPUT-OUTPUT · RC | | | | ent = 10mA, DC5 | | | | | |
| ISOLATION | INPUT-FG | | | | ent = 10mA, DC5 | | | | | |
| | OUTPUT · RC · AUX-F | G | | | t = 100mA, DC5 | | | | | |
| | OUTPUT-RC · AUX | | | | t = 100mA, DC5 | | | | | |
| | OPERATING TEMP., HUMID.AND | | | | j"), 20 - 90%RH | | | 00feet) max | | |
| ENVIRONMENT | STORAGE TEMP., HUMID. AND | ALTITUDE | | | n condensing) 9, | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | AC input) | | | | | | | | |
| NOISE REGULATIONS | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *6 | | | | | | | |
| TEGULATIONS | HARMONIC ATTENUAT | TOR | | | | | | /··· | | |
| OTHERS | CASE SIZE/WEIGHT | | | | < 6.69 inches] (w | thout terminal b | ock and screw) | (W×H×D) /1.0 | kg max | |
| | COOLING METHOD | | Forced cooling | (internal fan) | | | | | | |

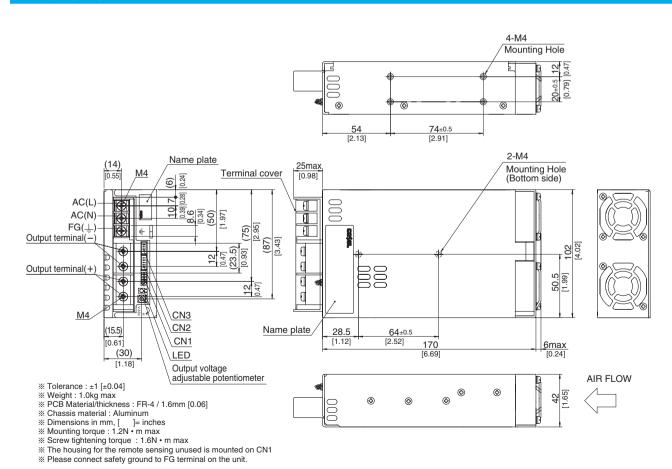
- Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at $25\,^{\circ}\!\text{C}$. $\pmb{*}$ 3 () means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- *5 Please contact us about safety approvals for the model with option.
- *6 Please contact us about class C.
- A sound may occur from power supply at pulse loading.

 $\divideontimes 4$ Derating is required.Consult us for details.





External view



PBA600F

B A 600 F

Example recommended EMI/EMC filter NAC-16-472

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

*A higher current rating EMI/EMC filter

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

~ ·

① Series name ② Single output ③ Output wattage

4 Universal input

5 Output voltage

Optional *6
 C:with Coating

G:Low leakage current
U:Operation stop voltage

is set at a lower value

F1:With Long-Life fan

F3:Reverse air exhaust

F4:Low speed fan

Refer to instruction manual



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

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

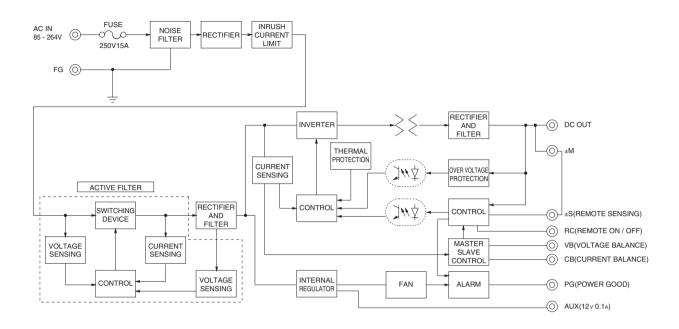
SPECIFICATIONS

| | MODEL | | PBA600F-3R3 | PBA600F-5 | PBA600F-7R5 | PBA600F-12 | PBA600F-15 | PBA600F-24 | PBA600F-36 | PBA600F-48 |
|-------------|---|---------------|---|------------------|-------------------|--------------------|-------------------|--------------------|---------------------|--------------------|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 350 | 0 (AC50 or DC70 | Please refer to | the instruction r | nanual 7. option | * 5) | |
| | CURRENT[A] | ACIN 100V | 5.8typ | 8.2typ | | | | | | |
| | CONNENT[A] | ACIN 200V | | 4.1typ | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | | 75typ | 76typ | 79typ | 79typ | 81typ | 82typ | 81typ |
| INPUT | LITIOILINO I[/6] | ACIN 200V | | 77typ | 79typ | 82typ | 82typ | 84typ | 84typ | 83typ |
| | POWER FACTOR | | 0.98typ (lo=100 | | | | | | | |
| | FOWERTACION | ACIN 200V | 0.95typ (lo=100 | 1%) | | | | | | |
| | INRUSH CURRENT[A] | | 20/40typ (lo=10 | | | | | | | |
| | | ACIN 200V | | | rush current /Se | | | | tart) | |
| | LEAKAGE CURRENT[i | mA] | 0.45/0.75max (| ACIN 100V/240\ | / 60Hz, lo=100% | According to I | EC62368-1, DEN | IAN) | | |
| | VOLTAGE[V] | | 3.3 | 5 | 7.5 | 12 | 15 | 24 | 36 | 48 |
| | CURRENT[A] | ACIN 100V | | 120 | 80 | 53 | 43 | 27 | 18 | 13 |
| | CONNENT[A] | ACIN 200V *3 | 120 | 120 | 80 | 53 | 43 | 27(31) | 18 | 13 |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 60max | 100max | 120max | 150max | 150max | 300max |
| | RIPPLE[mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max |
| | nieere[iiivp-p] | -20 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 160max | 400max |
| ОИТРИТ | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 200max | 200max |
| OUIFUI | MIPPLE NOISE[IIIVP-P] | -20 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 240max | 500max |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | 40max | 50max | 75max | 120max | 150max | 240max | 360max | 480max |
| | TEMPERATURE REGULATION[IIIV] | -20 to +50°C | 60max | 75max | 120max | 180max | 180max | 290max | 440max | 600max |
| | DRIFT[mV] | *2 | 12max | 20max | 30max | 48max | 60max | 96max | 144max | 192max |
| | START-UP TIME[ms] | | 400typ(ACIN 100 | /200V, lo=100%) | *Start-up time is | 500ms typ for less | than 1minute of | applying input aga | in from turning off | the input voltage. |
| | HOLD-UP TIME[ms] | | | 0/200V, lo=100° | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | | 2.64 - 3.96 | 3.96 - 6.00 | 5.25 - 8.25 | 8.25 - 13.20 | 10.50 - 16.50 | 16.50 - 26.40 | 25.20 - 39.60 | 38.40 - 56.00 |
| | OUTPUT VOLTAGE SET | TING[V] | 3.30 - 3.40 | 5.00 - 5.15 | 7.50 - 7.80 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 36.00 - 37.44 | 48.00 - 49.92 |
| | OVERCURRENT PROT | | Works over 105 | % of rated curre | ent or 101% of p | eak current and | recovers automa | atically | | |
| PROTECTION | OVERVOLTAGE PROTECT | ION[V] *4 | Vo+0.66 - 1.32 | Vo+1.0 - 2.0 | Vo+1.5 - 3.0 | Vo+2.4 - 4.8 | Vo+3.0 - 6.0 | Vo+4.8 - 9.6 | Vo+7.2 - 14.4 | Vo+4.8 - 12.0 |
| | OPERATING INDICATION | ON | LED (Green) | | | | | | | |
| OTHERS | REMOTE SENSING | | Provided | | | | | | | |
| | REMOTE ON/OFF | | Provided | | | | | | | |
| | INPUT-OUTPUT · RC | | | | ent = 10mA, DC | | · | | | |
| ISOLATION | INPUT-FG | | | | ent = 10mA, DC | | | | | |
| IOOLATION | OUTPUT · RC · AUX-F | G | | | t = 100mA, DC5 | | | | | |
| | OUTPUT-RC · AUX | | | | t = 100mA, DC5 | | | | | |
| | OPERATING TEMP., HUMID. AND | | | | j"), 20 - 90%RH | | | 00feet) max | | |
| ENVIRONMENT | STORAGE TEMP.;HUMID.AND | ALTITUDE | | | n condensing) 9, | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| OALLII AND | AGENCY APPROVALS (At only | y 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 *7 CASE SIZE/WEIGHT 120×61×190mm [4.72×2.4×7.48 inches] (without terminal block and screw) (W×H×D) /1.6kg max | | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 120×61×190n | nm [4.72×2.4× | 7.48 inches] (wit | hout terminal blo | ck and screw) (\ | N×H×D) /1.6kç | g max | |
| UIILIIU | COOLING METHOD | | Forced cooling (internal fan) | | | | | | | |

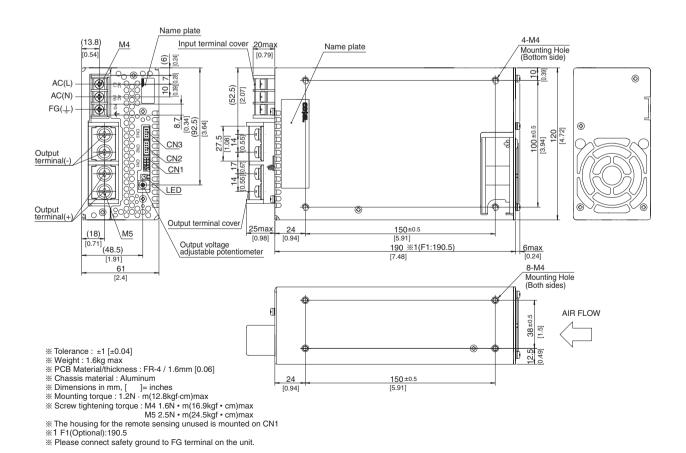
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN -RM101)
- prift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
 means peak current. Peak loading for 10s. And Duty 35% max, refer to Instruction manual
- *4 Overvoltage protection circuit to follow to output voltage setting. Standard overvoltage protection circuit is please contact us for details.
- *5 Derating is required. Consult us for details.
- *6 Please contact us about safety approvals for the model with option.
- *7 Please contact us about class C.
- A sound may occur from power supply at pulse loading

PBA/PBW-18 January 06, 2023 www.cosel.co.jp/en/





External view



PBA1000F

1000



Example recommended EMI/EMC filter NAC-20-472

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

*A higher current rating EMI/EMC filter

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

- ①Series name ②Single output (3) Output wattage
- 4 Universal input
- ⑤Output voltage
- Optional *6
 C:with Coating

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

Refer to instruction manual

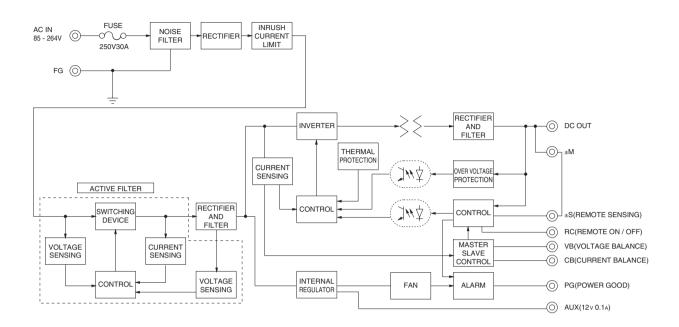
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | | PBA1000F-3R3 | PBA1000F-5 | PBA1000F-7R5 | PBA1000F-12 | PBA1000F-15 | PBA1000F-24 | PBA1000F-36 | PBA1000F-48 |
|-----------------------|--------------|--------------|------------|--------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | | 660 | 1000 | 1005 | 1056 | 1050 | 1056 | 1044 | 1056 |
| ACIN 100V | | 3.3V 200A | 5V 200A | 7.5V 134A | 12V 88A | 15V 70A | 24V 44A | 36V 29A | 48V 22A |
| DC OUTPUT | ACIN 200V *3 | 3.3V 200A | 5V 200A | 7.5V 134A | 12V 88A | 15V 70A | 24V 44(51)A | 36V 29A | 48V 22A |

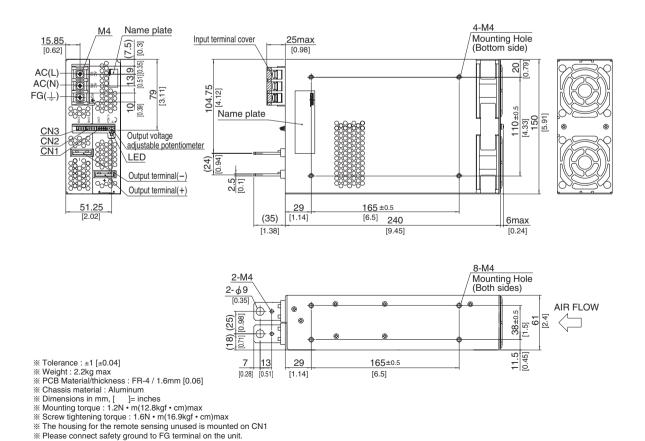
| | MODEL | | PBA1000F-3R3 | PBA1000F-5 | PBA1000F-7R5 | PBA1000F-12 | PBA1000F-15 | PBA1000F-24 | PBA1000F-36 | PBA1000F-48 |
|----------------------|----------------------------|-----------------------|---|-----------------|--------------------|--------------------|-------------------|--------------------------------|---------------------|--------------------|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 350 | 0 (AC50 or DC70 | Please refer to | the instruction n | nanual 7. option | * 5) | |
| | CURRENT[A] | ACIN 100V | 9typ | 13typ | | | | | | |
| | CONNENT[A] | ACIN 200V | | 7typ | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 74typ | 79typ | 80typ | 82typ | 82typ | 84typ | 84typ | 84typ |
| INPUT | EFFICIENCI[/6] | ACIN 200V | 76typ | 81typ | 83typ | 84typ | 84typ | 86typ | 86typ | 86typ |
| | POWER FACTOR | ACIN 100V | 0.98typ (lo=100 |)%) | | | | | | |
| | POWER FACTOR | | 0.95typ (lo=100 | | | | | | | |
| | INRUSH CURRENT[A] | | | | rush current /Se | | | | | |
| | INNUSTI CONNENT[A] | ACIN 200V | | | rush current /Se | | | | -start) | |
| | LEAKAGE CURRENT[r | nA] | 0.5/1.0max (AC | IN 100V/240V 6 | 60Hz, Io=100%, / | According to IEC | 62368-1, DENA | N) | | |
| | VOLTAGE[V] | | 3.3 | 5 | 7.5 | 12 | 15 | 24 | 36 | 48 |
| | CURRENT[A] | ACIN 100V | 200 | 200 | 134 | 88 | 70 | 44 | 29 | 22 |
| | CURRENT[A] | ACIN 200V *3 | 200 | 200 | 134 | 88 | 70 | 44(51) | 29 | 22 |
| | LINE REGULATION[m\ | /] | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max |
| | LOAD REGULATION[m | ıV] | 40max | 40max | 60max | 100max | 120max | 150max | 150max | 300max |
| | RIPPLE[mVp-p] | 0 to +50°C * 1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max |
| | RIPPLE[IIIVP-P] | -20 - 0°C * 1 | 140max | 140max | 160max | 160max | 160max | 160max | 160max | 400max |
| OUTPUT | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 200max | 200max |
| OUIFUI | MIPPLE NOISE[IIIVP-P] | -20 - 0℃ *1 | 160max | 160max | 180max | 180max | 180max | 180max | 240max | 500max |
| | DRIFT[mV] | 0 to +50°C | 40max | 50max | 75max | 120max | 150max | 240max | 360max | 480max |
| | | -20 to +50℃ | 60max | 75max | 120max | 180max | 180max | 290max | 440max | 600max |
| | | *2 | 12max | 20max | 30max | 48max | 60max | 96max | 144max | 192max |
| | START-UP TIME[ms] | | | | | 500ms typ for less | than 1minute of a | applying input aga | in from turning off | the input voltage. |
| | HOLD-UP TIME[ms] | | | 0/200V, lo=100° | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | | 2.64 - 3.96 | 3.96 - 6.00 | 5.25 - 8.25 | 8.25 - 13.20 | 10.50 - 16.50 | 16.50 - 26.40 | 25.20 - 39.60 | 38.40 - 56.00 |
| | OUTPUT VOLTAGE SET | | 3.30 - 3.40 | 5.00 - 5.15 | 7.50 - 7.80 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 36.00 - 37.44 | 48.00 - 49.92 |
| | OVERCURRENT PROT | | | | ent or 101% of p | | | | | |
| PROTECTION | OVERVOLTAGE PROTECT | | Vo+0.66 - 1.32 | Vo+1.0 - 2.0 | Vo+1.5 - 3.0 | Vo+2.4 - 4.8 | Vo+3.0 - 6.0 | Vo+4.8 - 9.6 | Vo+7.2 - 14.4 | Vo+4.8 - 12.0 |
| CIRCUIT AND OTHERS | OPERATING INDICATION | ON | LED (Green) | | | | | | | |
| OTHERS | REMOTE SENSING | | Provided | | | | | | | |
| | REMOTE ON/OFF | | Provided | | | | , | | | |
| | INPUT-OUTPUT · RC | | | | ent = 25mA, DC5 | | | | | |
| ISOLATION | INPUT-FG | | | | ent = 25mA, DC5 | | | | | |
| | OUTPUT · RC · AUX-F | G | | | t = 100mA, DC5 | | | | | |
| | OUTPUT-RC · AUX | | | | t = 100mA, DC5 | | | | | |
| | OPERATING TEMP., HUMID.AND | | | | j"), 20 - 90%RH | | | 00feet) max | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | | | condensing) 9, | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | 101 . | 196.1m/s² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | | | | | | | | | |
| NOISE REGULATIONS | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B Complies with IEC61000-3-2 *7 | | | | | | | |
| TEGULATIONS | HARMONIC ATTENUAT | IUR | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | | | 9.45 inches] (with | nout terminal blo | ck and screw) (\ | $V \times H \times D$) /2.2kç | g max | |
| | COOLING METHOD | | Forced cooling | (ınternal fan) | | | | | | |

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





External view



PBA1500F

1500

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

*A higher current rating EMI/EMC filter

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



Example recommended EMI/EMC filter NAC-20-472 ①Series name ②Single output

(3) Output wattage

4 Universal input

⑤Output voltage

Optional *6
 C:with Coating

G:Low leakage current
U:Operation stop voltage

is set at a lower value

F1:With Long-Life fan

F3:Reverse air exhaust type

F4:Low speed fan

Refer to instruction manual

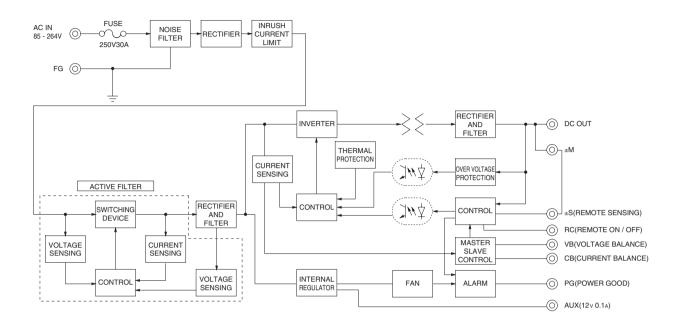
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | | PBA1500F-3R3 | PBA1500F-5 | PBA1500F-7R5 | PBA1500F-12 | PBA1500F-15 | PBA1500F-24 | PBA1500F-36 | PBA1500F-48 |
|-----------------------|--------------|--------------|------------|--------------|-------------|-------------|--------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | | 990 | 1500 | 1500 | 1500 | 1500 | 1680 | 1692 | 1680 |
| ACIN 10 | | 3.3V 300A | 5V 300A | 7.5V 200A | 12V 125A | 15V 100A | 24V 65A | 36V 42A | 48V 32A |
| DC OUTPUT | ACIN 200V *3 | 3.3V 300A | 5V 300A | 7.5V 200A | 12V 125A | 15V 100A | 24V 70(105)A | 36V 47(70)A | 48V 35A |

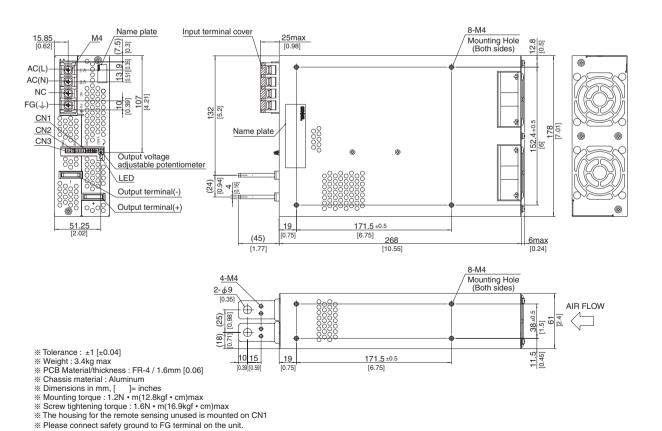
| | MODEL | | PBA1500F-3R3 | PBA1500F-5 | PBA1500F-7R5 | PBA1500F-12 | PBA1500F-15 | PBA1500F-24 | PBA1500F-36 | PBA1500F-48 | |
|-------------|---------------------------------------|---------------|--|-------------------------------|------------------|-------------------|--------------------|-------------------|---------------|---------------|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ | or DC120 - 370 | 0 (AC50 or DC70 | Please refer to | the instruction n | nanual 7. option | * 5) | | |
| | CURRENT[A] | ACIN 100V | 15typ | 19typ | | | | | | | |
| | CORRENT[A] | ACIN 200V | 8typ | 10typ | | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 72typ | 77typ | 81typ | 81typ | 83typ | 84typ | 84typ | 84typ | |
| INPUT | EFFICIENCY[%] | ACIN 200V | 75typ | 81typ | 83typ | 84typ | 86typ | 87typ | 87typ | 87typ | |
| | DOWED FACTOR | ACIN 100V | 0.98typ (lo=100 |)%) | | | | | | | |
| | POWER FACTOR | ACIN 200V | 0.95typ (lo=100 |)%) | | | | | | | |
| | INDUCU CUDDENTIAL | ACIN 100V | 20/40typ (lo=10 | 00%) (Primary in | rush current /Se | condary inrush c | current) (More the | an 10 sec. to re- | start) | | |
| | INRUSH CURRENT[A] | ACIN 200V | 40/40typ (lo=10 | 00%) (Primary in | rush current /Se | condary inrush c | current) (More the | an 10 sec. to re- | start) | | |
| | LEAKAGE CURRENT[r | nA] | 0.9/1.5max (AC | IN 100V/240V 6 | 60Hz, lo=100%, / | According to IEC | 62368-1, DENAI | N) | | | |
| | VOLTAGE[V] | - | 3.3 | 5 | 7.5 | 12 | 15 | 24 | 36 | 48 | |
| | | ACIN 100V | 300 | 300 | 200 | 125 | 100 | 65 | 42 | 32 | |
| | CURRENT[A] | ACIN 200V *3 | 300 | 300 | 200 | 125 | 100 | 70(105) | 47(70) | 35 | |
| | LINE REGULATION[m\ | /1 | 20max | 20max | 36max | 48max | 60max | 96max | 144max | 192max | |
| | LOAD REGULATION[m | - | 40max | 40max | 60max | 100max | 120max | 150max | 150max | 300max | |
| | | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max | 150max | |
| | RIPPLE[mVp-p] | -20 - 0℃ *1 | 140max | 140max | 160max | 160max | 160max | 160max | 160max | 400max | |
| | | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 200max | 200max | |
| OUTPUT | RIPPLE NOISE[mVp-p] | -20 - 0°C *1 | 160max | 160max | 180max | 180max | 180max | 180max | 240max | 500max | |
| | TEMPERATURE REGULATION[mV] DRIFT[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 | |
| | | *2 | 12max | 20max | 30max | 48max | 60max | 96max | 144max | 192max | |
| | START-UP TIME[ms] | | | 00/200V, lo=100 | %) | | | | | | |
| | HOLD-UP TIME[ms] | | 20tvp (ACIN 10 | htyp (ACIN 100/200V, lo=100%) | | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | T RANGE[V] | 2.64 - 3.96 | 3.96 - 6.00 | 5.25 - 8.25 | 8.25 - 13.20 | 10.50 - 16.50 | 16.50 - 26.40 | 25.20 - 39.60 | 38.40 - 56.00 | |
| | OUTPUT VOLTAGE SET | TING[V] | 3.30 - 3.40 | 5.00 - 5.15 | 7.50 - 7.80 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 36.00 - 37.44 | 48.00 - 49.92 | |
| | OVERCURRENT PROT | ECTION | Works over 105 | % of rated curre | ent or 101% of p | eak current and | recovers automa | atically | | • | |
| PROTECTION | OVERVOLTAGE PROTECT | ION[V] *4 | Vo+0.66 - 1.32 | Vo+1.0 - 2.0 | Vo+1.5 - 3.0 | Vo+2.4 - 4.8 | Vo+3.0 - 6.0 | Vo+4.8 - 9.6 | Vo+7.2 - 14.4 | Vo+4.8 - 12.0 | |
| CIRCUIT AND | OPERATING INDICATION | NC | LED (Green) | | | | | | | | |
| OTHERS | REMOTE SENSING | | Provided | | | | | | | | |
| | REMOTE ON/OFF | | Provided | | | | | | | | |
| | INPUT-OUTPUT · RC | | | | ent = 25mA, DC5 | | | | | | |
| ISOLATION | INPUT-FG | | | | ent = 25mA, DC5 | | | | | | |
| ISOLATION | OUTPUT · RC · AUX-F0 | G | | | t = 100mA, DC5 | | | | | | |
| | OUTPUT-RC · AUX | | | | t = 100mA, DC5 | | | | | | |
| | OPERATING TEMP., HUMID. AND | ALTITUDE | -20 to +71°C (F | Refer to "Derating | j"), 20 - 90%RH | (Non condensing | g) 3,000m (10,00 | Ofeet) max | | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | -20 to +75℃, 2 | 0 - 90%RH (Nor | n condensing) 9, | 000m (30,000fee | et) max | | | | |
| ENVIRONMENT | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each X, Y and Z axis | | | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | AC input) | | | | | | | | | |
| NOISE | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class E | | | | | | | | |
| REGULATIONS | HARMONIC ATTENUAT | | | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 178×61×268n | nm [7.01 × 2.4 × | 10.55 inches] (w | thout terminal bl | ock and screw) | (W×H×D) /3.4I | kg max | | |
| OTHERS | COOLING METHOD | | Forced cooling | (internal fan) | | | | | | | |

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





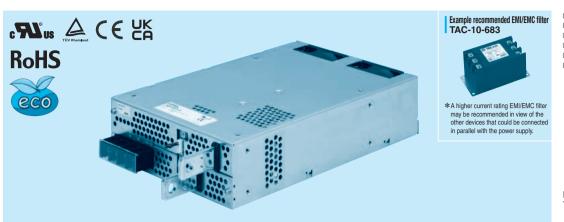
External view



PBA1500T

1500 T





- ①Series name ②Single output
- (3) Output wattage
- Triple input phase
- ⑤Output voltage
- Optional *6
 C:with Coating

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

Refer to instruction manual

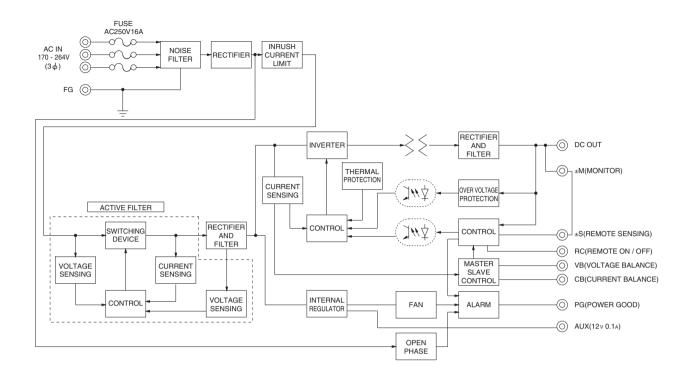
*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

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

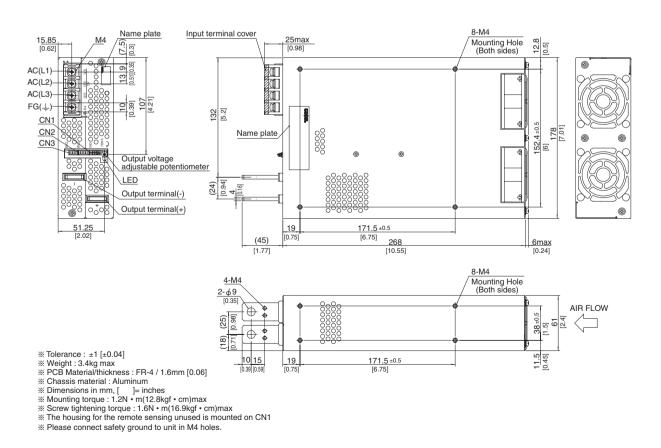
| | MODEL | | PBA1500T-5 | PBA1500T-12 | PBA1500T-24 | PBA1500T-48 | | | |
|----------------------|------------------------------|---------------|--|---------------------------------------|-------------------------------------|--|--|--|--|
| | VOLTAGE[V] | | AC170 - 264 3φ (AC100 Pleas | e refer to the instruction manual | 7. option * 5) | | | | |
| | CURRENT[A] | ACIN 200V | 6typ | | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 63) | | | | | | |
| INPUT | EFFICIENCY[%] | ACIN 200V | 81typ | 84typ | 87typ | 87typ | | | |
| | POWER FACTOR | ACIN 200V | 0.95typ (Io=100%) | | | | | | |
| | INRUSH CURRENT[A] | ACIN 200V | 40/40typ (Io=100%) (Primary ir | nrush current /Secondary inrush | current) (More than 10 sec. to re- | -start) | | | |
| | LEAKAGE CURRENT[r | nA] | 1.5max (ACIN 240V 60Hz, Io= | 100%, According to IEC62368-1, | DENAN) | | | | |
| | VOLTAGE[V] | | 5 | 12 | 24 | 48 | | | |
| | CURRENT[A] | ACIN 200V *3 | 300 | 125 | 70(105) | 35 | | | |
| | LINE REGULATION[m\ | /] | 20max | 48max | 96max | 192max | | | |
| | LOAD REGULATION[m | ıV] | 40max | 100max | 150max | 300max | | | |
| | DIDDI E(mVn nl | 0 to +50°C *1 | 80max | 120max | 120max | 150max | | | |
| | RIPPLE[mVp-p] | -20 - 0°C *1 | 140max | 160max | 160max | 400max | | | |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 150max | 150max | 200max | | | |
| OUTPUT | HIPPLE NOISE[IIIVP-P] | -20 - 0°€ *1 | 160max | 180max | 180max | 500max | | | |
| | TEMPEDATURE RECUI ATION(~V/) | 0 to +50℃ | 50max | 120max | 240max | 480max | | | |
| | TEMPERATURE REGULATION[mV] | -20 to +50℃ | 75max | 180max | 290max | 600max | | | |
| | DRIFT[mV] | *2 | 20max | 48max | 96max | 192max | | | |
| | START-UP TIME[ms] | | 300typ(ACIN 200V, Io=100%) > | Start-up time is 500ms typ for less | than 1 minute of applying input aga | ain from turning off the input voltage | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 200V, Io=100%) | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | RANGE[V] | 3.96 - 6.00 | 8.25 - 13.20 | 16.50 - 26.40 | 38.40 - 56.00 | | | |
| | OUTPUT VOLTAGE SET | TING[V] | 5.00 - 5.15 | 12.00 - 12.48 | 24.00 - 24.96 | 48.00 - 49.92 | | | |
| | OVERCURRENT PROT | ECTION | Works over 105% of rated curr | ent or 101% of peak current and | recovers automatically | | | | |
| PROTECTION | OVERVOLTAGE PROTECT | ION[V] *4 | Vo+1.0 - 2.0 | Vo+2.4 - 4.8 | Vo+4.8 - 9.6 | Vo+2.0 - 12.0 | | | |
| CIRCUIT AND | OPERATING INDICATION | ON | LED (Green) | | | | | | |
| OTHERS | REMOTE SENSING | | Provided | | | | | | |
| | REMOTE ON/OFF | | Provided | | | | | | |
| | INPUT-OUTPUT · RC | | AC3,000V 1minute, Cutoff curr | ent = 25mA, DC500V 50M Ω min | (At Room Temperature) | | | | |
| ICOL ATION | INPUT-FG | | AC2,000V 1minute, Cutoff curr | ent = 25mA, DC500V 50MΩmin | (At Room Temperature) | | | | |
| ISOLATION | OUTPUT · RC · AUX-F | G | AC500V 1minute, Cutoff currer | $t = 100$ mA, DC500V 50M Ω min | (At Room Temperature) | | | | |
| | OUTPUT-RC · AUX | | AC500V 1minute, Cutoff currer | $t = 100$ mA, DC500V 50M Ω min | (At Room Temperature) | | | | |
| | OPERATING TEMP.,HUMID.AND | ALTITUDE | -20 to +71℃ (Refer to "Derating | g"), 20 - 90%RH (Non condensin | g) 3,000m (10,000feet) max | | | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | | | | | | | |
| ENVIRONMENT | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | / AC input) | ut) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN | | | | | | |
| NOISE REGULATIONS | CONDUCTED NOISE | | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B, additional EMI/EMC Filter required for meeting class B | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 178 x 61 x 268mm [7.01 x 2.4 x 10.55 inches] (without terminal block and screw) (W x H x D) /3.4kg max | | | | | | |
| OTHERS | COOLING METHOD | | Forced cooling (internal fan) | | | | | | |

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





External view



PBW15F

15

c**Al**°us ≜ CE UK









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

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

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

Cover is optional

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

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

| | MODEL | | PBW15F-12 | | PBW15F-15 | | | |
|------------------------|------------------------------|-----------------------|--|--------------------------------------|----------------------------------|-----------------------------|--|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ or DC110 - 370 | O (AC50 or DC70 Please refer to | the instruction manual 1.1 Input | voltage *8) | | |
| | | ACIN 100V | 0.40typ (CURRENT1) | | | | | |
| | CURRENT[A] | ACIN 200V | 0.20typ (CURRENT1) | | | | | |
| | FREQUENCY[Hz] | | 50/60 (47 - 440) or DC | | | | | |
| INPUT | ACIN 100V | | 74typ (CURRENT1) | | 78typ (CURRENT1) | | | |
| | EFFICIENCY[%] | ACIN 200V | 77typ (CURRENT1) | | 80typ (CURRENT1) | | | |
| | INDUCUI CURRENTIAL | ACIN 100V | 15typ (CURRENT1) (At cold sta | art) | | | | |
| | INRUSH CURRENT[A] | ACIN 200V | 30typ (CURRENT1) (At cold sta | art) | | | | |
| | LEAKAGE CURRENT[r | nA] | 0.15/0.30max (ACIN 100V/240V | / 60Hz, lo=100%, According to | IEC62368-1,DENAN) | | | |
| | VOLTAGE[V] | | ±12 | / (+24V reference number) | ±15 | / (+30V reference number) | | |
| | CURRENT1[A] | | 0.7 | / 0.7 | 0.5 | / 0.5 | | |
| | CURRENT2[A] | *5 | 1.4 | / - | 1.0 | /- | | |
| | LINE REGULATION[m\ | /] *19 | 60max | / 96max | 60max | / 96max | | |
| | LOAD REGULATION 1 | [mV] *11 | 600max | / 150max | 600max | / 150max | | |
| | LOAD REGULATION 2 | [mV] *11 | 750max | / - | 750max | / - | | |
| | RIPPLE[mVp-p] | 0 to +50°C * 1 | 120max | / 240max | 120max | / 240max | | |
| | RIPPLE[IIIVP-P] | -10 - 0℃ *1 | 160max | / 320max | 160max | / 320max | | |
| OUTPUT | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 150max | / 300max | 150max | / 300max | | |
| | KIPPLE NOISE[mvp-p] | -10 - 0°C *1 | 180max | / 360max | 180max | / 360max | | |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | 120max | | 150max | | | |
| | TEMPERATURE REGULATION[IIIV] | -10 to +50℃ | 150max | | 180max | | | |
| | DRIFT[mV] | *2 | 48max | | 60max | | | |
| | START-UP TIME[ms] | | 200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage. | | | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 100V, Io=100%) | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | T RANGE[V] | 9.60 - 13.2 (+V and -V are simultaneously adjusted) | | 13.2 - 16.5 (+V and -V are sim | ultaneously adjusted) | | |
| | OUTPUT VOLTAGE SET | TING[V] | 11.5 - 12.5 (+V and -V CURRENT1) | | 14.4 - 15.6 (+V and -V CURRE | NT1) | | |
| | OVERCURRENT PROT | ECTION | Works over 105% of rated curre | ent and recovers automatically | | | | |
| PROTECTION CIRCUIT AND | OVERVOEIAGE I HOTEC | | 16.8 - 24.0 | | 20.0 - 29.0 | | | |
| OTHERS | OPERATING INDICATION | NC | LED (Green) | | | | | |
| | REMOTE ON/OFF | | None | | | | | |
| | INPUT-OUTPUT | | | ent = 10mA, DC500V 50M Ω min | | | | |
| ISOLATION | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 25mA, DC500V 50M Ω min (At Room Temperature) | | | | | |
| | OPERATING TEMP.,HUMID.AND | ALTITUDE | -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max | | | | | |
| ENVIRONMENT | STORAGE TEMP.,HUMID.AND | ALTITUDE | | | | | | |
| LINVINONIMENT | VIBRATION | | 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once e | | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | y AC input) | UL60950-1, C-UL(CSA60950-1 | | | | | |
| NOISE | CONDUCTED NOISE | | | sB, VCCI-B, CISPR22-B, EN550 | | | | |
| REGULATIONS | HARMONIC ATTENUAT | ГOR | | lot built-in to active filter *7) *1 | | | | |
| OTHERS | CASE SIZE/WEIGHT | | | .35 inches] (without terminal blo | ck) (W×H×D) / 200g max (with | cover : 235g max) | | |
| UTIENS | COOLING METHOD | | Convection | | | | | |

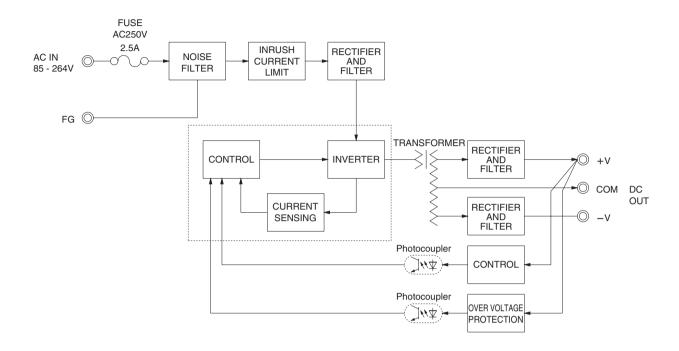
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN: RM101).
- Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *4 Figures for 0 to rated current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

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



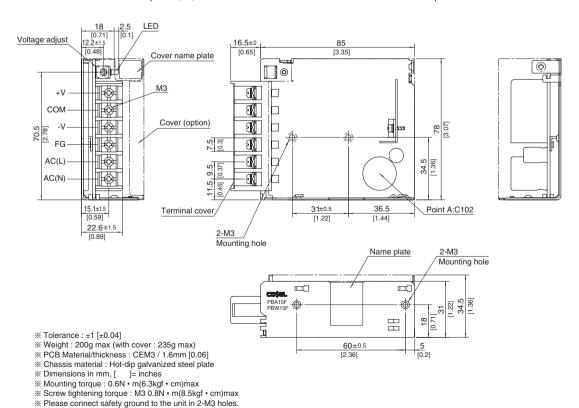
PBA/PBW-27

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.

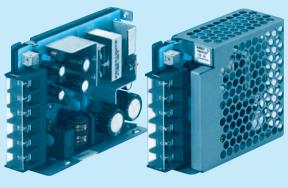


PBW30F

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Example recommended EMI/EMC filter NAC-06-472



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

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

- ①Series name ②Dual output
- (3) Output wattage 4 Universal input
- ⑤Output voltage
- Optional *10
 C:with Coating

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

Cover is optional

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

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

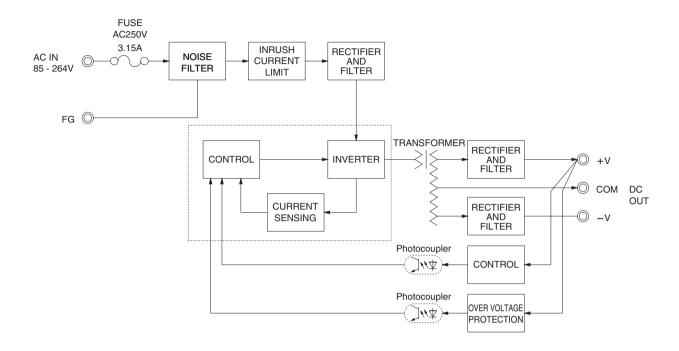
| | MODEL | | PBW30F-5 | | PBW30F-12 | | PBW30F-15 | | |
|--------------------|-----------------------------|---------------|--|---|----------------------------------|------------------------------|----------------------------------|-----------------------------|--|
| | VOLTAGE[V] | | AC85 - 264 1 φ o | r DC110 - 370 (AC50 or | DC70 Please refer | to the instruction manua | l 1.1 Input voltage * | 3) | |
| | | ACIN 100V | 0.4tvp (CURREN | Γ1) | 0.7typ (CURRENT | 1) | | | |
| | CURRENT[A] | ACIN 200V | 0.25tvp (CURREN | 0.25typ (CURRENT1) 0.4typ (CURRENT1) | | | | | |
| | FREQUENCY[Hz] | 1 | 50/60 (47 - 440) or DC | | | | | | |
| INPUT | ACIN 100V | | 75typ (CURRENT | | 77typ (CURRENT1 | 1) | 78typ (CURRENT1) | | |
| | EFFICIENCY[%] | ACIN 200V | 75typ (CURRENT1) | | 81typ (CURRENT1 | 1) | 79typ (CURRENT1) | | |
| | | | | 5typ (CURRENT1) (At cold start) | | | | | |
| | INRUSH CURRENT[A] | | 30typ (CURRENT | | | | | | |
| | LEAKAGE CURRENT[| | | IN 100V/240V 60Hz, lo= | 100%, According to | IEC62368-1,DENAN) | | | |
| | VOLTAGE[V] | | ±5 | / (+10V reference number) | ±12 | / (+24V reference number) | ±15 | / (+30V reference number) | |
| | CURRENT1[A] | | 1.5 | / 1.5 | 1.3 | / 1.3 | 1.0 | / 1.0 | |
| | CURRENT2[A] | *5 | 2.0 | / - | 1.7 | / - | 1.4 | / - | |
| | LINE REGULATION[m\ | /I *19 | 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℃ *1 | 140max | / 320max | 160max | / 320max | 160max | / 320max | |
| OUTPUT | | 0 to +50°C *1 | 120max | / 300max | 150max | / 300max | 150max | / 300max | |
| | RIPPLE NOISE[mVp-p] | -10 - 0℃ *1 | 160max | / 360max | 180max | / 360max | 180max | / 360max | |
| | | 0 to +50℃ | 50max | | 120max | | 150max | | |
| | TEMPERATURE REGULATION[mV] | -10 to +50℃ | 60max | | 150max | | 180max | | |
| | DRIFT[mV] *2 | | 2 20max | | 48max | | 60max | | |
| | START-UP TIME[ms] | | 200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage. | | | | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 100V, lo=100%) | | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT | T RANGE[V] | 4.99 - 6.00 (+V and -\ | (+V and -V are simultaneously adjusted) 9.60 - 13.2 (+V and -V are simultaneously adjusted) | | are simultaneously adjusted) | 13.2 - 16.5 (+V and -V ar | e simultaneously adjusted) | |
| | OUTPUT VOLTAGE SET | TING[V] | 4.99 - 5.30 (+V ar | nd -V CURRENT1) | 11.5 - 12.5 (+V and -V CURRENT1) | | 14.4 - 15.6 (+V and -V CURRENT1) | | |
| | OVERCURRENT PROT | ECTION | Works over 105% of rated current and recovers automatically | | | | | | |
| PROTECTION | OVERVOLTAGE PROTEC | TION[V] | 6.90 - 10.0 | | | 20.0 - 29.0 | | | |
| CIRCUIT AND OTHERS | OPERATING INDICATION | ON | LED (Green) | | | | | | |
| | REMOTE ON/OFF | | None | | | | | | |
| | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature) | | | | | | |
| ISOLATION | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (At Room Temperature) | | | | | | |
| | OUTPUT-FG | | AC500V 1minute, | Cutoff current = 25mA, I | DC500V 50M Ω min | (At Room Temperature) |) | | |
| | OPERATING TEMP., HUMID. AND | ALTITUDE | -10 to +71°C (Ref | er to "Derating"), 20 - 90° | %RH (Non condensi | ing) 3,000m (10,000feet) |) max | | |
| ENVIRONMENT | STORAGE TEMP., HUMID. AND | ALTITUDE | | | | | | | |
| ENVIRONMENT | VIBRATION | | 10 - 55Hz, 19.6m | /s² (2G), 3minutes period | d, 60minutes each a | long X, Y and Z axis | | | |
| | IMPACT | | 196.1m/s ² (20G), | 11ms, once each X, Y a | nd Z axis | | | | |
| SAFETY AND | AGENCY APPROVALS (At only | / AC input) | UL60950-1, C-UL | (CSA60950-1), EN62368 | 8-1 Complies with DE | EN-AN | | | |
| NOISE | CONDUCTED NOISE | | Complies with FC | C Part15 classB, VCCI-E | 3, CISPR22-B, EN55 | 5011-B, EN55022-B | | | |
| REGULATIONS | HARMONIC ATTENUAT | ΓOR | Complies with IEC | C61000-3-2 (Not built-in t | o active filter *7) * | :12 | | | |
| OTHERS | CASE SIZE/WEIGHT | | 31 × 78 × 103mm | 1.22 × 3.07 × 4.06 inches |] (without terminal b | olock) (W x H x D) / 270 | g max (with cover : 31 | 0g max) | |
| OTHERS | COOLING METHOD | | Convection | | | | | | |

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

- The sum of +power -power must be less than output power.
- *6 ±5,±12,±15 can be used as +10,+24 and +30. *7 When two or more units are used,they may not comply with
- the harmonic attenuator. Please contact us for details
- *8 Derating is required.
- *9 Figures to rated current 1.

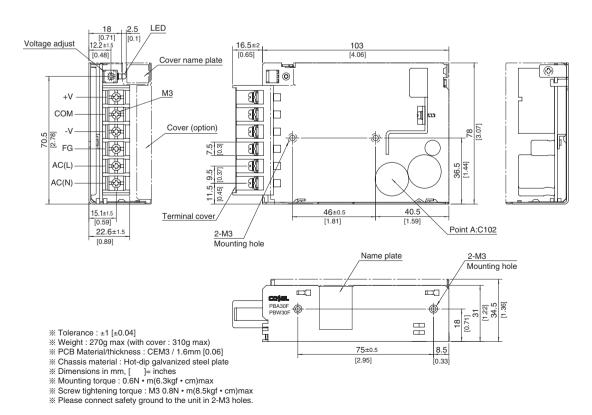
- *10 Please contact us about safety approvals for the model with option.
- *11 Please contact us about dynamic load and input response.
- *12 Please contact us about class C.
- Parallel operation with other model is not possible.
- Derating is required when operated with cover.
- A sound may occur from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





External view

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



PRW50F-5

Ordering information

PBW50F

50



1) Series name 2) Dual output

(3) Output wattage 4 Universal input

⑤Output voltage

Optional *9
 C:with Coating

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

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

J1 :VH (J.S.T.) connector type R:with Remote ON/OFF

N :with Cover N1 :with DIN rail

PRW50F-15

V :Output voltage setting potentiometer external-

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

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

PRW50F-12

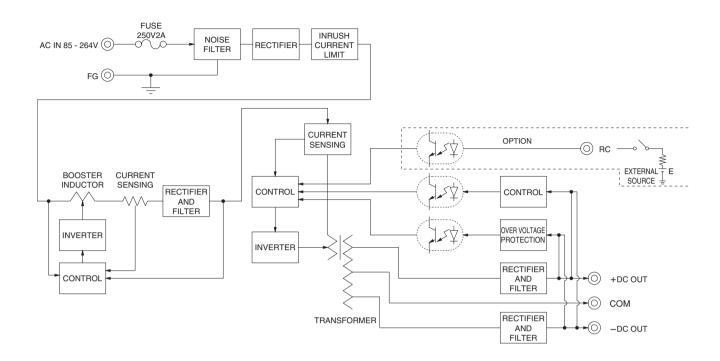
SPECIFICATIONS

MODEL

| POWER FACTOR(los-10%) ACM 100V 0.981yp 0.991yp 0.931yp | | MODEL | | PBW50F-5 | | PBW50F-12 | | PBW50F-15 | | | |
|--|-------------|------------------------------|---------------|---|------------------------------|---------------------------|-----------------------------|----------------------------|-----------------------------|--|--|
| CURRENT A | | VOLTAGE[V] | | AC85 - 264 1 φ or | DC120 - 370 (AC50 or | DC70 Please refer to | the instruction manua | al 1.1 Input voltage *3 | 3) | | |
| REQUENCY 12 Solos (37 - 63) | | | ACIN 100V | 0.45typ (CURRENT | T1) | 0.70typ (CURRENT | 1) | | | | |
| PREQUENCY[H-] | | CURRENT[A] | ACIN 200V | 0.30typ (CURRENT | T1) | 0.40typ (CURRENT1) | | | | | |
| | | FREQUENCY[Hz] | | | | | | | | | |
| POWER FACTOR(Io=100%) ACM 200V 77/pp (CURRENT1) 83/pp (CURREN | | | ACIN 100V | | | 81typ (CURRENT1) | | 81tvp (CURRENT1) | | | |
| POWEH R.C. IONICO-100-5] ACIN 2007 0.37 /pc 0.93 /pc | INPUT | EFFICIENCY[%] | | | | | | | | | |
| POWEH R.C. IONICO-100-5] ACIN 2007 0.37 /pc 0.93 /pc | | | ACIN 100V | 0.98tvp | | 0.99tvp | | | | | |
| INFLOSE CURRENT IAN ACM 2007 O.00/0.75max (ACIN 100V/240V 60Hz. lo=100%. According to IEC62368-1.DENAN) | | POWER FACTOR(Io=100%) | ACIN 200V | 0.87typ | | | | | | | |
| LEAKAGE CURRENTINA 0.400/.75max (ACIN 100V/240V 60Hz. lo=100%. According to IEC62388-1.DENAN) | | | ACIN 100V | 15typ (CURRENT1 |) (At cold start) | , ,, | | | | | |
| VOLTAGE[V] | | INRUSH CURRENT[A] | ACIN 200V | | | | | | | | |
| VOLTAGE[V] | | LEAKAGE CURRENT[r | nA] | 0.40/0.75max (ACII | N 100V/240V 60Hz, Io= | 100%, According to I | EC62368-1,DENAN) | | | | |
| CURRENTI[A] 3.0 | | VOLTAGE[V] | | | | | | ±15 | / (+30V reference number) | | |
| CURRENT2[A] | | | | 3.0 | | | / 2.1 | | / 1.7 | | |
| COAD REGULATION 1 (mV) ** 250max | | | *6 | 4.0 | / - | 2.7 | / - | 2.4 | / - | | |
| COAD REGULATION 2 mv | | | /] | 20max | / 36max | 48max | / 96max | 60max | / 96max | | |
| Note | | LOAD REGULATION 1 | [mV] *4 | 250max | / 100max | 600max | / 150max | 600max | / 150max | | |
| Note | | LOAD REGULATION 2 | [mV] *5 | 500max | / - | 750max | / - | 750max | / - | | |
| OUTPUT RIPPLE NOISE[mVp-p] | | | 0 to +50°C *1 | 80max | / 240max | 120max | / 240max | 120max | / 240max | | |
| HiPPLE NOISE[IMV]P-P -10 - 0 C * 160max | | RIPPLE[mvp-p] | -10 - 0℃ *1 | 140max | / 320max | 160max | / 320max | 160max | / 320max | | |
| 10 t +50° 50max 120max 150max | OUTPUT | DIDDLE NOISEL-V1 | 0 to +50°C *1 | 120max | / 300max | 150max | / 300max | 150max | / 300max | | |
| Temperature Figure Figu | | KIPPLE NOISE[mvp-p] | -10 - 0°C *1 | 160max | / 360max | 180max | / 360max | 180max | / 360max | | |
| The control of the | | TEMPEDATURE RECUI ATION(~V/) | 0 to +50℃ | 50max | | 120max | | 150max | | | |
| START-UP TIME[ms] 350typ(ACIN 100V, Io=100%) | | TEMPERATURE REGULATION[IIIV] | -10 to +50℃ | 60max | | 150max | | 180max | | | |
| HOLD-UP TIME[ms] 20typ (ACIN 100V, Io=100%) 0UTPUT 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 adjusted) 14.4 - 15.6 (+V and -V CURRENT1) 14.5 (+V an | | DRIFT[mV] | *2 | 20max | | 48max | | 60max | | | |
| 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 adjusted) 14.4 - 15.6 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) 15.5 - 12.5 (+V and -V CURRENT1) 15.5 (-V and -V CURRENT1) 15.5 (-V and -V a | | START-UP TIME[ms] | | 350typ(ACIN 100V | lo=100%) | | | | | | |
| OUTPUT VOLTAGE SETTING[V] 4.99 - 5.30 (+V and -V CURRENT1) 11.5 - 12.5 (+V and -V CURRENT1) 14.4 - 15.6 (+V and -V CURRENT1) OVERCURRENT PROTECTION CIRCUIT AND OTHERS OVERVOLTAGE PROTECTION[V] 6.90 - 10.0 16.8 - 24.0 20.0 - 29.0 OPERATING INDICATION REMOTE ON/OFF Optional (Required external power source) INPUT-OUTPUT · RC *7 AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) INPUT-FG AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT · RC-FG *7 AC5.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP,HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max STORAGE TEMP,HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9.000m (30,000feet) max VIBRATION 10 - 55Hz. 19.6m/s² (2GG), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (20G), 11ms, once each X, Y and Z axis SAFETY AND NOISE REGULATIONS CASE SIZE/WEIGHT 31 x82 x120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (W x H x D) / 280g max (with cover : 325g max) | | HOLD-UP TIME[ms] | | 20typ (ACIN 100V, | lo=100%) | | | | | | |
| OVERCURRENT PROTECTION OVERVOLTAGE PROTECTION Overvoltage PROTECTION Overvoltage PROTECTION Overvoltage PROTECTION Overvoltage PROTECTION Optional (Required external power source) | | OUTPUT VOLTAGE ADJUSTMENT | T RANGE[V] | 4.99 - 6.00 (+V and -V a | are simultaneously adjusted) | 9.60 - 13.2 (+V and -V ar | re simultaneously adjusted) | 13.2 - 16.5 (+V and -V are | e simultaneously adjusted) | | |
| OVERVOLTAGE PROTECTION[V] 0.90 - 10.0 16.8 - 24.0 20.0 - 29.0 | | | | | I -V CURRENT1) | 11.5 - 12.5 (+V and | -V CURRENT1) | 14.4 - 15.6 (+V and - | -V CURRENT1) | | |
| OPERATING INDICATION LED (Green) NPUT-OUTPUT · RC *7 AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) NPUT-FG AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT · RC *7 AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OUTPUT · RC-FG *7 AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) OPERATING TEMP.HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3.000m (10.000feet) max STORAGE TEMP.HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9.000m (30.000feet) max VIBRATION 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (20G), 11ms, once each X, Y and Z axis MENCY APPROVALS (At only AC input) UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN CONDUCTED NOISE CONDUCTED NOISE HARMONIC ATTENUATOR Complies with IEC61000-3-2 *10 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) | | | | Works over 105% of rated current and recovers automatically | | | | | | | |
| OPERATING INDICATION REMOTE ON/OFF OPERATING INDICATION REMOTE ON/OFF OPERATING INDICATION REMOTE ON/OFF OPERATING INDICATION OPERATING INDICATION OPERATING INDICATION OPERATING INDICATION OPERATING INDICATION OPERATING TEMP,HUMID.AND ALTITUDE | PROTECTION | | | | | 16.8 - 24.0 | | 20.0 - 29.0 | | | |
| INPUT-OUTPUT · RC *7 AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) | OTHERS | OPERATING INDICATION | NC | (, | | | | | | | |
| INPUT-FG | | REMOTE ON/OFF | | | | | | | | | |
| OUTPUT · RC-FG *7 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) ENVIRONMENT OPERATING TEMP,HUMID.AND ALTITUDE 500 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max VIBRATION 10 - 55Hz. 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 10 AGENCY APPROVALS (At only AC input) NOISE REGULATIONS UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN CONDUCTED NOISE REGULATIONS Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B HARMONIC ATTENUATOR Complies with IEC61000-3-2 *10 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) | | | *7 | | | | | | | | |
| OPERATING TEMP.HUMID.AND ALTITUDE -10 to +71°C (Refer to "Derating"), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max | ISOLATION | | | | | | | | | | |
| STORAGE TEMP,HUMID.AND ALTITUDE -20 to +75°C, 20 - 90%RH (Non condensing) 9,000m (30,000feet) max | | | | | | | | | | | |
| VIBRATION 10 - 55Hz. 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (20G), 11ms, once each X, Y and Z axis SAFETY AND NOISE REGULATIONS AGENCY APPROVALS (At only AC input) CONDUCTED NOISE CONDUCTED NOISE COMPlies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CASE SIZE/WEIGHT CASE SIZE/WEIGHT 10 - 55Hz. 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN CONDUCTED NOISE COMPLIES COMPLIES COMPLIES COMPLIES (WITHOUT OF AN INCOMPLIES AND INCOMPLI | | | | | | | | | | | |
| VIBRATION 10 - 55Hz. 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (20G), 11ms, once each X, Y and Z axis SAFETY AND NOISE REGULATIONS CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B HARMONIC ATTENUATOR Complies with IEC61000-3-2 **10 CASE SIZE/WEIGHT 31 x82 x120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (W x H x D) / 280g max (with cover : 325g max) | ENVIRONMENT | | ALTITUDE | | | | | | | | |
| AGENCY APPROVALS (At only AC input) NOISE REGULATIONS AGENCY APPROVALS (At only AC input) CONDUCTED NOISE CONDUCTED NOISE COMPlies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B CASE SIZE/WEIGHT CASE SIZE/WEIGHT UL60950-1, C-UL(CSA60950-1), EN62368-1 Complies with DEN-AN Complies with | Littinonine | | | | | | ong X, Y and Z axis | | | | |
| CONDUCTED NOISE CONDUCTED NOISE Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B REGULATIONS HARMONIC ATTENUATOR Complies with IEC61000-3-2 *10 CASE SIZE/WEIGHT 31×82×120mm [1.22×3.23×4.72 inches] (without terminal block) (W×H×D) / 280g max (with cover: 325g max) | | | | | | | | | | | |
| HARMONIC ATTENUATOR Complies with IEC61000-3-2 *10 CASE SIZE/WEIGHT 31x82x120mm [1.22x3.23x4.72 inches] (without terminal block) (WxHxD) / 280g max (with cover: 325g max) | SAFETY AND | | AC input) | | | | | | | | |
| 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) | | | | | | B, CISPR22-B, EN550 | 011-B, EN55022-B | | | | |
| OTHERS | NEGULATIONS | | TOR | | | | | | | | |
| COOLING METHOD Convection | OTHERS | | | | .22 × 3.23 × 4.72 inches | [] (without terminal blo | ock) (W x H x D) / 280 | g max (with cover : 32 | 5g max) | | |
| | | COOLING METHOD | | Convection | | | | | | | |

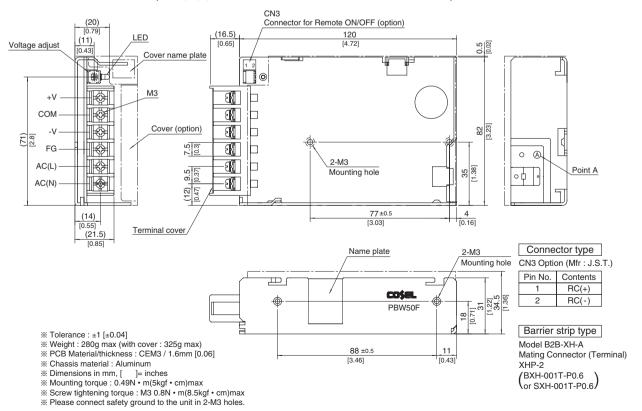
- *1 Measured by 20MHz oscilloscope or Ripple-Noise meter(equivalent to KEISOKU-GIKEN : RM101).
- *2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.
- *3 Derating is required.
- Figures for 0 to rated current 1.The current not measured side is fixed.
- *5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





External view

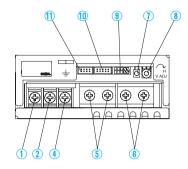
** External size of option T,J1,R,N1 and V is different from standard model and refer to 7 Option of instruction manual for details.



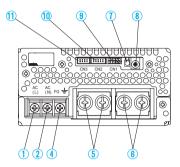
Terminal Blocks

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

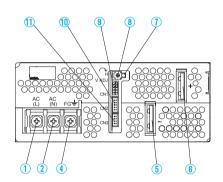
PBA300F



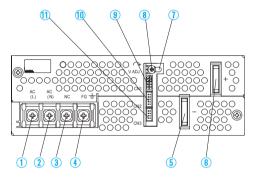
PBA600F



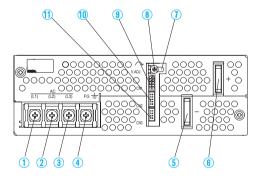
PBA1000F



PBA1500F



PBA1500T



*PBA300F - 1500F

①AC (L) $\$ Input Terminals AC85 - 264V $\$ ϕ 47 - 63Hz $\$ ②AC (N) $\$ (M4)

3NC

④Frame ground (M4 ±)

⑤-Output

6 +Output

7LED

®Output voltage adjustable potentiometer

9CN1

10CN2 Connectors

①CN3

*Please see Optional Parts for dedicated harnesses.

*PBA1500T

①AC (L1)

2AC (L2)

(3)AC (L3)

④Frame ground (M4 ±)

⑤-Output

6 +Output

(7)LED

Output voltage adjustable potentiometer

9CN1)

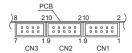
10CN2 Connectors

①CN3

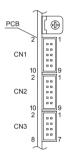


Terminal Blocks

PBA300F, 600F Pin Configuration



▶ PBA1000F, 1500F Pin Configuration



Pin Configuration and Functions of CN1 and CN2

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

Pin Configuration and Functions of CN3

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

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

Matching connecters and terminals on CN1, CN2 and CN3

| Connector | | Housing | Terminal | | Mfr. |
|------------|------------|-----------|----------|--------------------------------------|------|
| CN1 CN2 | S10B-PHDSS | PHDR-10VS | Reel | : SPHD-002T-P0.5 : BPHD-001T-P0.5 | |
| CN3 | S8B-PHDSS | PHDR-08VS | Loose | . БРПО-0011-Р0.5 | |

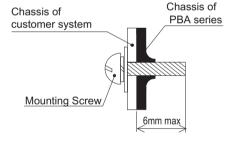
Assembling and Installation Method

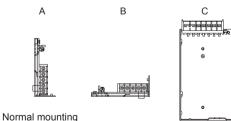
Installation Method

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

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

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



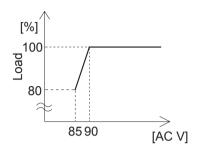


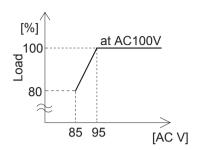
PBA300F, PBA600F, PBA1000F, PBA1500F and PBA1500T

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

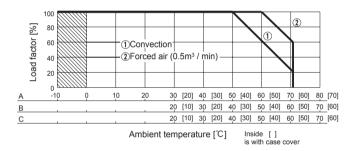
Derating

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

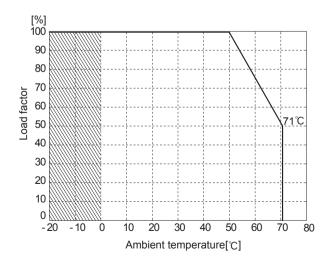




●PBA10F, PBA15F, PBW15F, PBA30F, PBW30F, PBA50F, PBW50F, PBA75F, PBA100F, PBA150F Ambient temperature derating curve



- ■In the hatched area, the specification of Ripple, Ripple Noise is different from other area.
- ■The ambient temperature should be measured 5 to 10 cm away from the power supply so that it won't be influenced by the heat from the power supply. Please consult us for more details.
- ■Make sure the temperature at point A is less than the temperatures shown in Instruction Manual 4.
- ●PBA300F, PBA600F, PBA1000F, PBA1500F, PBA1500T Ambient temperature derating curve



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

PBA·PBW-series



Instruction Manual

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

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







Basic Characteristics Data

| Maria I | Of the distribution of | Switching | Input | Rated | Inrush current | PCB/Pattern | | | Series/Parallel operation 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 |
| DDAEOE | Active filter | 60 - 550 | 0.7 | 0501/ 04 | Theymieter | CEMA | Vaa | | Vaa | .0.4 |
| PBA50F | Forward converter | 130 | | 250V 2A | Thermistor | CEM-3 | Yes | | Yes | *1 |
| DDAZEE | Active filter | 60 - 550 | 4.0 | | Theoremiates | OFMO | V | | V | .0.4 |
| PBA75F | Forward converter | 120 | 1.0 | 050)/ 0.454 | Thermistor | CEM-3 | Yes | | Yes | *1 |
| DDA400E | Active filter | 60 - 550 | 4.0 | 250V 3.15A | The amount of a m | OEMO | V | | V | |
| PBA100F | Forward converter | 120 | 1.3 | | Thermistor | CEM-3 | Yes | | Yes | *1 |
| DDA4505 | Active filter | 60 - 550 | 2.0 250V 4A | 050)/ 44 | Thermistor | 0514.0 | \/ | | Vaa | ata 4 |
| PBA150F | Forward converter | 120 | | 250V 4A | | CEM-3 | Yes | | Yes | *1 |
| DD 4 000E | Active filter | 230 | | 250V 10A | SCR | FR-4 | | \/ | | V |
| PBA300F | Forward converter | 330 | 4.1 | | | | | Yes | Yes | Yes |
| DDAGGGE | Active filter | 130 | 0.0 | | SCR | ED 4 | | V | V | V |
| PBA600F | Forward converter | 330 | 8.2 | 250V 15A | | FR-4 | | Yes | Yes | Yes |
| DDA4000E | Active filter | 130 | 40 | | 000 | ED 4 | | \ , | ., | |
| PBA1000F | Forward converter | 280 | 13 | 0501/ 004 | SCR | FR-4 | | Yes | Yes | Yes |
| DD 445005 | Active filter | 130 | 40 | 250V 30A | 000 | ED 4 | | V | V | V |
| PBA1500F | Forward converter | 200 | 19 | | SCR | FR-4 | | Yes | Yes | Yes |
| DDA4500T | Active filter | 130 | | 0501/ 404 | 000 | ED 4 | | V | V | V |
| PBA1500T | Forward converter | 200 | 6 | 250V 16A | SCR | FR-4 | | Yes | Yes | Yes |
| PBW15F | Flyback converter | 100 | 0.4 | 250V 2.5A | Thermistor | CEM-3 | Yes | | Yes | *1 |
| PBW30F | Flyback converter | 100 | 0.7 | 250V 3.15A | Thermistor | CEM-3 | Yes | | Yes | *1 |
| DDWEOT | Active filter | 60 - 550 | 0.7 | 0507.04 | They was let | OEM 0 | | | Vaa | .0.4 |
| PBW50F | Forward converter | 130 | 0.7 | 250V 2A | Thermistor | CEM-3 | Yes | | Yes | *1 |

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

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