

PBA15F



Features

- DIN Rail Attachment (Optional)
- Universal input voltage
- Super small-size & light weight
- Built-in Inrush Current Protection
- Built-in Over Current Protection
- RoHS Compliant

Safety Agency Approvals

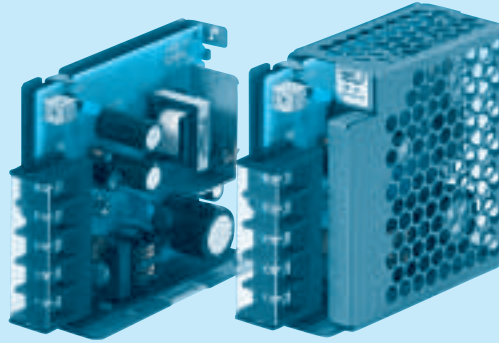
- Complies with DEN-AN
- EN50178,
- UL60950-1
- EN60950-1
- C-UL (CSA60950-1)

EMI Compliance

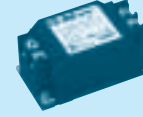
- CISPR22-B
- EN55022-B
- VCCI-B
- EN55011-B
- Complies with FCC Part15 classB

| Model | Input Voltage [V] | Output Wattage [W] | DC Output [V/A] |
|------------|-----------------------------|--------------------|-----------------|
| PBA15F-5 | DC 120 - 370 AC 85 - 264 | 15 | 5V 3A |
| PBA15F-12 | DC 120 - 370 AC 85 - 264 | 15.6 | 12V 1.3A |
| PBA15F-24 | DC 120 - 370 AC 85 - 264 | 16.8 | 24V 0.7A |
| PBA15F-3R3 | DC 120 - 370 AC 85 - 264 | 9.9 | 3.3V 3A |
| PBA15F-9 | DC 120 - 370 AC 85 - 264 | 15.3 | 9V 1.7A |
| PBA15F-15 | DC 120 - 370 AC 85 - 264 | 15 | 15V 1A |
| PBA15F-48 | DC 120 - 370 AC 85 - 264 | 16.8 | 48V 0.35A |

① PB ② A ③ 15 ④ F ⑤ - □ ⑥ - □



Recommended Noise Filter
NAC-06-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
*The Noise Filter is recommended to connect with several devices.

- ① Series name
② Single output
③ Output wattage
④ Universal input
⑤ Output voltage
⑥ Optional
C : with Coating
G : Low leakage current
E : Low leakage current and EMI class A
T : Vertical terminal block
J : Connector type
N : with Cover
(UL508 is pending for approval)
M : with DIN rail
V : Output voltage setting potentiometer externally

Cover is optional

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

SPECIFICATIONS

| | MODEL | PBA15F-3R3 | PBA15F-5 | PBA15F-9 | PBA15F-12 | PBA15F-15 | PBA15F-24 | PBA15F-48 | |
|------------------------------------|--|--|---------------------------------|------------------|---------------|---------------|---------------|-------------|--------|
| INPUT | VOLTAGE[V] | AC85 - 264 1 φ or DC110 - 370 (AC50 or DC70 Please refer to the instruction manual 2.1 Input voltage *3) | | | | | | | |
| | CURRENT[A] | ACIN 100V | 0.30typ (Io=100%) | 0.4typ (Io=100%) | | | | | |
| | | ACIN 200V | 0.15typ (Io=100%) | 0.2typ (Io=100%) | | | | | |
| | FREQUENCY[Hz] | 50/60 (47 - 440) or DC | | | | | | | |
| | EFFICIENCY[%] | ACIN 100V | 68typ | 74typ | 75typ | 75typ | 77typ | 75typ | 75typ |
| | | ACIN 200V | 68typ | 75typ | 77typ | 78typ | 80typ | 78typ | 78typ |
| | INRUSH CURRENT[A] | ACIN 100V | 15typ (Io=100%) (At cold start) | | | | | | |
| ACIN 200V | | 30typ (Io=100%) (At cold start) | | | | | | | |
| LEAKAGE CURRENT[ma] | 0.15/0.30max (ACIN 100V/240V 60Hz, Io=100%, According to IEC60950-1,DENAN) | | | | | | | | |
| OUTPUT | 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] | 20max | 20max | 36max | 48max | 60max | 96max | 192max | |
| | LOAD REGULATION[mV] | 40max | 40max | 100max | 100max | 120max | 150max | 240max | |
| | RIPPLE [mVp-p] | 0 to +50°C *1 | 80max | 80max | 120max | 120max | 120max | 120max | 150max |
| | | -10 - 0°C *1 | 140max | 140max | 160max | 160max | 160max | 160max | 200max |
| | RIPPLE NOISE[mVp-p] | 0 to +50°C *1 | 120max | 120max | 150max | 150max | 150max | 150max | 250max |
| | | -10 - 0°C *1 | 160max | 160max | 180max | 180max | 180max | 180max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 50max | 90max | 120max | 150max | 240max | 480max |
| | | -10 to +50°C | 60max | 60max | 120max | 150max | 180max | 290max | 600max |
| | DRIFT[mV] | *2 | 20max | 20max | 36max | 48max | 60max | 96max | 192max |
| START-UP TIME[ms] | 200typ(ACIN 100V, Io=100%) *Start-up time is 700ms typ for less than 1minute of applying input again from turning off the input voltage. | | | | | | | | |
| HOLD-UP TIME[ms] | 20typ (ACIN 100V, Io=100%) | | | | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | 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 SETTING[V] | 3.30 - 3.40 | 5.00 - 5.15 | 9.00 - 9.36 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 48.00 - 49.92 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rated current and recovers automatically | | | | | | | |
| | OVERVOLTAGE PROTECTION[V] | 4.00 - 5.25 | 5.75 - 7.00 | 11.5 - 14.0 | 15.0 - 18.0 | 20.0 - 25.0 | 30.0 - 37.0 | 58.0 - 65.0 | |
| | OPERATING INDICATION | LED (Green) | | | | | | | |
| | REMOTE ON/OFF | None | | | | | | | |
| ISOLATION | INPUT-OUTPUT | AC3.000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature) | | | | | | | |
| | INPUT-FG | AC2.000V 1minute, Cutoff current = 10mA, DC500V 50MΩmin (At Room Temperature) | | | | | | | |
| | OUTPUT-FG | AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩmin (At Room Temperature) | | | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | -10 to +71°C (Required Derating), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max | | | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | -20 to +75°C, 20 - 90%RH (Non condensing) 3,000m (10,000feet) max | | | | | | | |
| | VIBRATION | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | 196.1m/s ² (20G), 11ms, once each X, Y and Z axis | | | | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS (At only AC input) | UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN | | | | | | | |
| | CONDUCTED NOISE | Complies with FCC Part15 classB, VCCI-B, CISPR22-B, EN55011-B, EN55022-B | | | | | | | |
| | CE MARKING | Low Voltage Directive, EMC Directive | | | | | | | |
| | HARMONIC ATTENUATOR | Complies with IEC61000-3-2 (Not built-in to active filter *4) | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 31 x 78 x 85mm (without terminal block) (W x H x D) / 200g max (without cover) | | | | | | | |
| | 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.

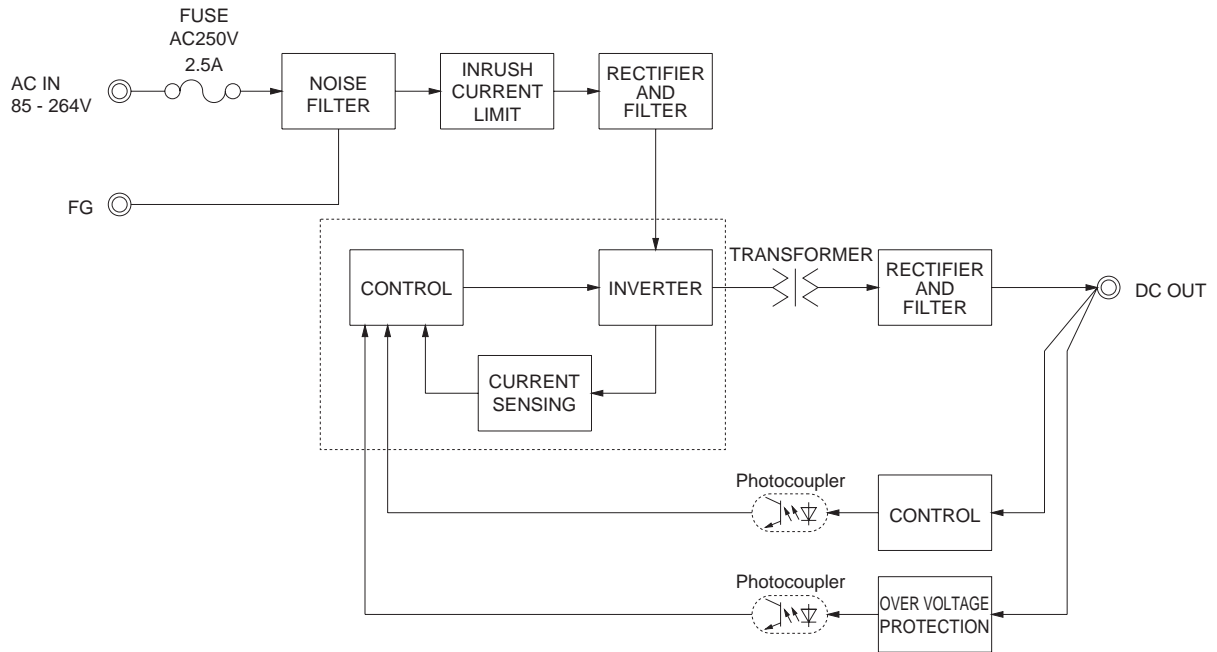
*4 When two or more units are used,they may not comply with the harmonic attenuator. Please contact us for details.

* Parallel operation with other model is not possible.

* Derating is required when operated with cover.

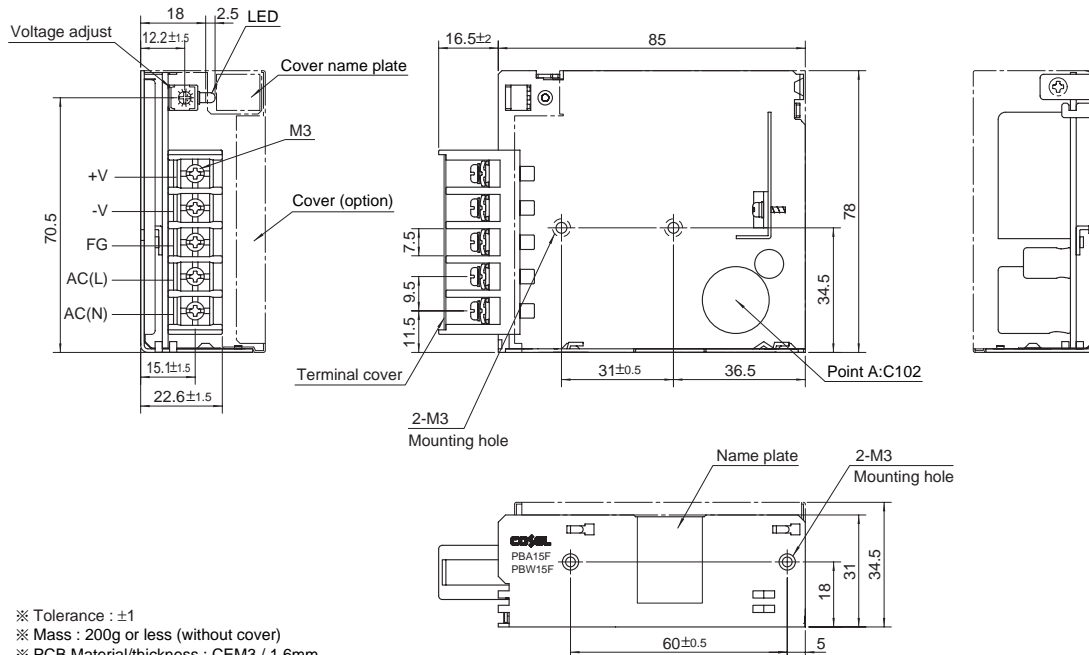
* A sound may occur from power supply at peak loading.

Block diagram



External view

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



- ※ Tolerance : ±1
- ※ Mass : 200g or less (without cover)
- ※ PCB Material/thickness : CEM3 / 1.6mm
- ※ Chassis material : Electric galvanizing steel board
- ※ Dimensions in mm
- ※ Mounting torque : 0.6N • m(6.3kgf • cm)max
- ※ Screw tightening torque : M3 0.8N • m(8.5kgf • cm)max
- ※ Please connect safety ground to the unit in 2-M3 holes.