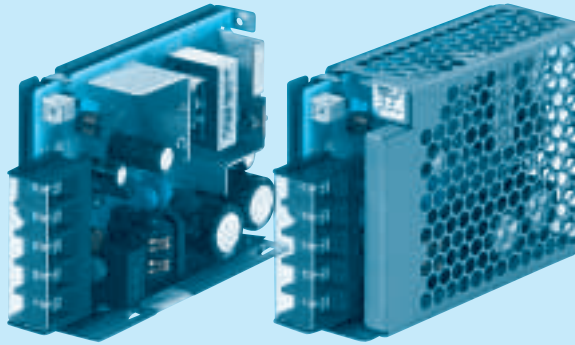
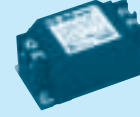




#### Recommended Noise Filter NAC-06-472



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)  
N1 : with DIN rail  
V : Output voltage setting potentiometer externally

Cover is optional

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

## SPECIFICATIONS

|                                    | MODEL                               |                                                                            | PBA30F-3R3                                                                                                                               | PBA30F-5          | PBA30F-9      | PBA30F-12     | PBA30F-15     | PBA30F-24     | PBA30F-48   |
|------------------------------------|-------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|---------------|---------------|---------------|-------------|
| INPUT                              | VOLTAGE[V]                          |                                                                            | AC85 - 264 1ϕ or DC110 - 370 (AC50 or DC70 Please refer to the instruction manual 2.1 Input voltage *3)                                  |                   |               |               |               |               |             |
|                                    | CURRENT[A]                          | ACIN 100V                                                                  | 0.50typ (Io=100%)                                                                                                                        | 0.70typ (Io=100%) |               |               |               |               |             |
|                                    |                                     | ACIN 200V                                                                  | 0.30typ (Io=100%)                                                                                                                        | 0.40typ (Io=100%) |               |               |               |               |             |
|                                    | FREQUENCY[Hz]                       |                                                                            | 50/60 (47 - 440) or DC                                                                                                                   |                   |               |               |               |               |             |
|                                    | EFFICIENCY[%]                       | ACIN 100V                                                                  | 68typ                                                                                                                                    | 74typ             | 75typ         | 76typ         | 78typ         | 78typ         | 79typ       |
|                                    |                                     | ACIN 200V                                                                  | 69typ                                                                                                                                    | 77typ             | 77typ         | 78typ         | 81typ         | 81typ         | 81typ       |
|                                    | INRUSH CURRENT[A]                   | ACIN 100V                                                                  | 15typ (Io=100%) (At cold start)                                                                                                          |                   |               |               |               |               |             |
| ACIN 200V                          |                                     | 30typ (Io=100%) (At cold start)                                            |                                                                                                                                          |                   |               |               |               |               |             |
| LEAKAGE CURRENT[ma]                |                                     | 0.30/0.65max (ACIN 100V/240V 60Hz, Io=100%, According to IEC60950-1.DENAN) |                                                                                                                                          |                   |               |               |               |               |             |
| OUTPUT                             | 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]                 |                                                                            | 20max                                                                                                                                    | 20max             | 36max         | 48max         | 60max         | 96max         | 192max      |
|                                    | LOAD REGULATION[mV]                 |                                                                            | 40max                                                                                                                                    | 40max             | 100max        | 100max        | 120max        | 150max        | 240max      |
|                                    | RIPPLE[mVp-p]                       | 0 to +50℃ *1                                                               | 80max                                                                                                                                    | 80max             | 120max        | 120max        | 120max        | 120max        | 150max      |
|                                    |                                     | -10 - 0℃ *1                                                                | 140max                                                                                                                                   | 140max            | 160max        | 160max        | 160max        | 160max        | 200max      |
|                                    | RIPPLE NOISE[mVp-p]                 | 0 to +50℃ *1                                                               | 120max                                                                                                                                   | 120max            | 150max        | 150max        | 150max        | 150max        | 250max      |
|                                    |                                     | -10 - 0℃ *1                                                                | 160max                                                                                                                                   | 160max            | 180max        | 180max        | 180max        | 180max        | 300max      |
|                                    | TEMPERATURE REGULATION[mV]          | 0 to +50℃                                                                  | 50max                                                                                                                                    | 50max             | 90max         | 120max        | 150max        | 240max        | 480max      |
|                                    |                                     | -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-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℃ (Required Derating), 20 - 90%RH (Non condensing) 3,000m (10,000feet) max                                                     |                   |               |               |               |               |             |
|                                    | STORAGE TEMP.,HUMID.AND ALTITUDE    |                                                                            | -20 to +75℃, 20 - 90%RH (Non condensing) 3,000m (10,000feet) 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) |                                                                            | 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                    |                                                                            | 31×78×103mm (without terminal block) (W×H×D) / 270g 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.