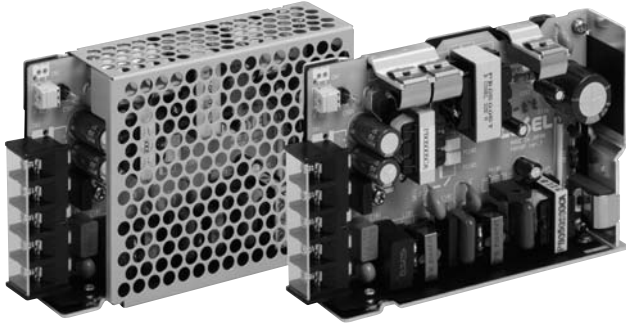


## PBA30/50 Series



- Universal Input
- Single Outputs from 3.3 V to 48 V
- Convection-cooled
- Level B Conducted Emissions
- EN61000-3-2, -3 Compliant
- Low Earth Leakage Current Option
- DIN Rail Mount Option

## Specification

## Input

Input Voltage	• 85-264 VAC (110-370 VDC), (120-370 VDC 50 W unit). For operation below 90 VAC output derates linearly to 80% at 85 VAC (30 W unit). Operation down to 50 VAC possible, contact sales for details. (50 W model)
Input Frequency	• 30 W unit: 47 - 440 Hz 50 W unit: 47 - 63 Hz
Input Current	• 0.7 A at 100 VAC
Inrush Current	• 15 A typical at 100 VAC, 30 A typical at 200 VAC
Power Factor	• 30 W unit: 0.5 typical 50 W unit: 0.98 typical
Earth Leakage Current	• 0.75 mA max at 240 VAC 60Hz
Input Protection	• 30 W unit: 3.15 A internal fuse 50 W unit: 2.00 A internal fuse

## Output

Output Voltage	• See tables
Output Voltage Trim	• See tables
Initial Set Accuracy	• -0% to +4% max
Minimum Load	• No minimum load required
Start Up Delay	• 30 W unit: 200 ms typical 50 W unit: 350 ms typical
Start Up Rise Time	• 12 ms typical
Hold Up Time	• 20 ms typical
Drift	• 0.4% max
Line Regulation	• 0.4% max
Load Regulation	• See tables
Transient Response	• 3% max. deviation, recovery to within 0.5% in 2 ms for a 50% load change
Ripple & Noise	• See tables
Oversvoltage Protection	• See tables, recycle mains to reset
Overtemperature Protection	• Not fitted
Overload Protection	• 30 W unit: >105% trip and restart (Hiccup mode), automatic recovery. 50 W unit: >105% constant current until voltage drops to 50% then trip & restart (Hiccup mode), automatic recovery.
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.5 %/°C
Remote On/Off	• Option (50 W unit)

## General

Efficiency	• See tables
Isolation	• 3000 VAC Input to Output 2000 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 30 W unit: 100 kHz typical 50 W unit: 60-550 kHz PFC, 130 kHz PWM
Power Density	• 2.71 W/In <sup>3</sup>
Signals	• None
MTBF	• 30 W: >611 kHrs per EIAJ RCR 9102 50 W: >436 kHrs per EIAJ RCR 9102

## Environmental

Operating Temperature	• -10 °C to +71 °C, see derating curve
Cooling	• Convection-cooled
Operating Humidity	• 20-90% RH, non-condensing
Storage Temperature	• -20 °C to +75 °C
Operating Altitude	• 3000 m max
Shock	• 20 g once on each axis
Vibration	• 10-55 Hz, 2 g 3 minute period, 60 minutes along each axis

## EMC &amp; Safety

Emissions	• EN55022 (CISPR22), level B conducted
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 4 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 4 Perf Criteria A
Surge	• EN61000-4-5, level 4 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30 % 10 ms, 60 % 100 ms, 100 % 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950-1, C-UL(CSA60950-1), EN60950-1, EN50178

**Models and Ratings**

Output Power	Output Voltage	Output Current	Output Voltage Trim	Overvoltage Protection	Ripple & Noise <sup>(2)</sup> (pk-pk max)	Load Regulation (max)	Efficiency <sup>(1)</sup> (Typ)	Model Number
19.8 W	3.3 VDC	6.00 A	2.85-3.60 VDC	4.00-5.25 VDC	160 mV	40 mV	69%	PBA30F-3R3
30.0 W	5 VDC	6.00 A	4.50-5.50 VDC	5.75-7.00 VDC	160 mV	40 mV	77%	PBA30F-5
30.6 W	9 VDC	3.40 A	7.50-10.0 VDC	11.5-14.0 VDC	180 mV	100 mV	77%	PBA30F-9
30.0 W	12 VDC	2.50 A	10.0-13.2 VDC	15.0-18.0 VDC	180 mV	100 mV	78%	PBA30F-12
30.0 W	15 VDC	2.00 A	13.2-18.0 VDC	20.0-25.0 VDC	180 mV	120 mV	81%	PBA30F-15
31.2 W	24 VDC	1.30 A	19.2-27.0 VDC	30.0-37.0 VDC	180 mV	150 mV	81%	PBA30F-24
31.2 W	48 VDC	0.65 A	39.0-53.0 VDC	58.0-65.0 VDC	300 mV	240 mV	81%	PBA30F-48
33.0 W	3.3 VDC	10.00 A	2.85-3.63 VDC	4.00-5.25 VDC	160 mV	40 mV	76%	PBA50F-3R3
50.0 W	5 VDC	10.00 A	4.00-5.50 VDC	5.75-7.00 VDC	160 mV	40 mV	82%	PBA50F-5
50.4 W	9 VDC	5.60 A	7.50-10.0 VDC	11.5-14.0 VDC	180 mV	100 mV	81%	PBA50F-9
51.6 W	12 VDC	4.30 A	10.0-13.2 VDC	15.0-18.0 VDC	180 mV	100 mV	82%	PBA50F-12
52.5 W	15 VDC	3.50 A	13.2-18.0 VDC	20.0-25.0 VDC	180 mV	120 mV	83%	PBA50F-15
52.8 W	24 VDC	2.20 A	19.2-27.0 VDC	30.0-37.0 VDC	180 mV	150 mV	84%	PBA50F-24
50.4 W	36 VDC	1.40 A	28.8-39.6 VDC	43.0-50.0 VDC	300 mV	240 mV	85%	PBA50F-36
52.8 W	48 VDC	1.10 A	39.0-53.0 VDC	58.0-65.0 VDC	300 mV	240 mV	85%	PBA50F-48

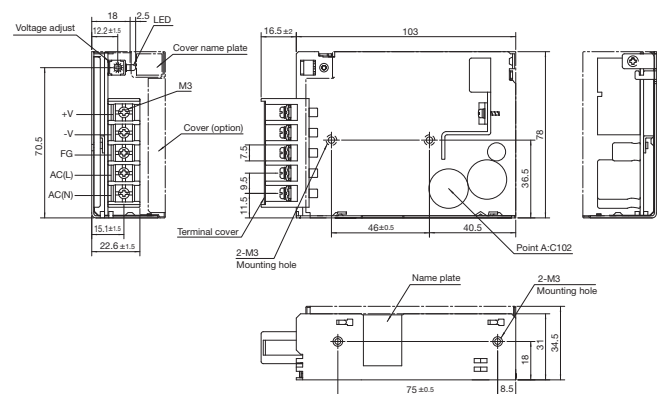
**Notes**

- 1. Efficiency measured at 200 VAC and full load.
- 2. Ripple & noise measured at 20 MHz bandwidth.

**Mechanical Details**

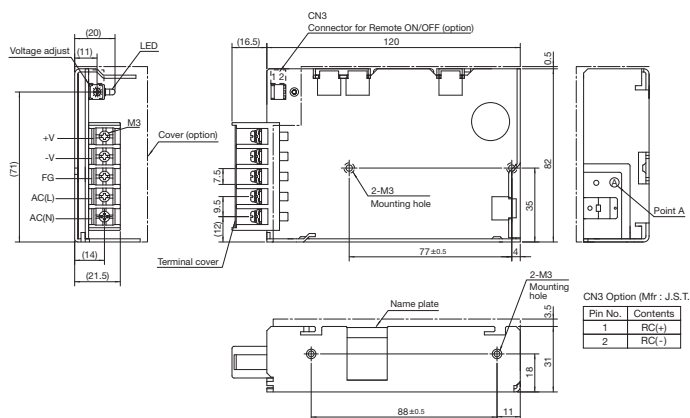
**PBA30**

Weight: <270g (without cover)



**PBA50**

Weight: <280g (without cover)



**Options**

- C : Conformal Coating
  - E : Low Leakage current and EMI class A
  - G : Low Leakage current
  - J : Molex Connectors\*
  - N : Cover fitted\*
  - N1 : Din Rail mountable\*
  - R : Remote On/Off (50 W unit)
  - T : Vertical terminal block\*
  - V : Remote potentiometer\*
- Contact sales for option details  
\* These options will alter the dimensions shown.

**Notes**

- 1. All measurements are in mm.
- 2. Tolerance: ±1 mm
- 3. Mounting torque : 0.49 Nm
- 4. Dual output models available contact sales.

**Derating Curve**

