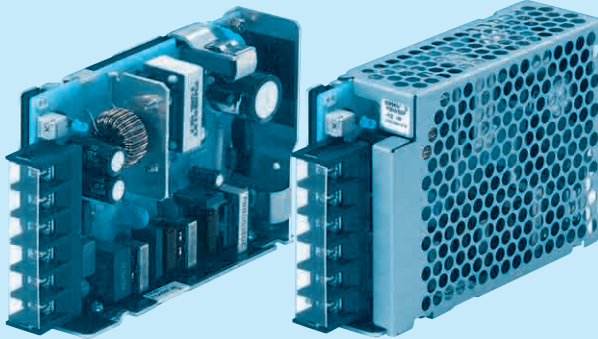


Recommended EM/EMC Filter
NAC-06-472

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

- ① Series name
② Dual output
③ Output wattage
④ Universal input
⑤ Output voltage
⑥ 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
J : Connector type
R : with Remote ON/OFF
N : with Cover
NI : with DIN rail
V : Output voltage setting potentiometer externally

Cover is optional

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

SPECIFICATIONS

	MODEL	PBW50F-5	PBW50F-12	PBW50F-15
INPUT	VOLTAGE[V]	AC85 - 264 1ϕ or DC120 - 370 (AC50 or DC70 Please refer to the instruction manual 2.1 Input voltage *3)		
	CURRENT[A]	ACIN 100V 0.45typ (CURRENT1) ACIN 200V 0.30typ (CURRENT1)	0.70typ (CURRENT1) 0.40typ (CURRENT1)	
	FREQUENCY[Hz]	50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V 76typ (CURRENT1) ACIN 200V 77typ (CURRENT1)	81typ (CURRENT1) 83typ (CURRENT1)	81typ (CURRENT1) 83typ (CURRENT1)
	POWER FACTOR(Io=100%)	ACIN 100V 0.98typ ACIN 200V 0.87typ	0.99typ 0.93typ	
	INRUSH CURRENT[A]	ACIN 100V 15typ (CURRENT1) (At cold start) ACIN 200V 30typ (CURRENT1) (At cold start)		
	LEAKAGE CURRENT[ma]	0.40/0.75max (ACIN 100V/240V 60Hz, Io=100%, According to IEC60950-1.DENAN)		
OUTPUT	VOLTAGE[V]	±5 / (+10V reference number)	±12 / (+24V reference number)	±15 / (+30V reference number)
	CURRENT1[A]	3.0 / 3.0	2.1 / 2.1	1.7 / 1.7
	CURRENT2[A]	*6 4.0 / -	2.7 / -	2.4 / -
	LINE REGULATION[mV]	20max / 36max	48max / 96max	60max / 96max
	LOAD REGULATION 1[mV]	*4 250max / 100max	600max / 150max	600max / 150max
	LOAD REGULATION 2[mV]	*5 500max / -	750max / -	750max / -
	RIPPLE[mVp-p]	0 to +50°C *1 80max / 240max -10 - 0°C *1 140max / 320max	120max / 240max 160max / 320max	120max / 240max 160max / 320max
	RIPPLE NOISE[mVp-p]	0 to +50°C *1 120max / 300max -10 - 0°C *1 160max / 360max	150max / 300max 180max / 360max	150max / 300max 180max / 360max
	TEMPERATURE REGULATION[mV]	0 to +50°C 50max -10 to +50°C 60max	120max 150max	150max 180max
	DRIFT[mV]	*2 20max	48max	60max
	START-UP TIME[ms]	350typ (ACIN 100V, Io=100%)		
	HOLD-UP TIME[ms]	20typ (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.99 - 6.00 (+V and -V are simultaneously adjusted)	9.60 - 13.2 (+V and -V are simultaneously adjusted)	13.2 - 16.5 (+V and -V are simultaneously adjusted)
	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)
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rated current and recovers automatically		
	OVERVOLTAGE PROTECTION[V]	6.90 - 10.0	16.8 - 24.0	20.0 - 29.0
	OPERATING INDICATION	LED (Green)		
	REMOTE ON/OFF	Optional (Required external power source)		
ISOLATION	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 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (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) 9,000m (30,000feet) 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		
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 *10		
OTHERS	CASE SIZE/WEIGHT	31 x 82 x 120mm [1.22 x 3.23 x 4.72 inches] (without terminal block) (W x H x D) / 280g max (with cover : 325g max)		
	COOLING METHOD	Convection		

*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 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 side is fixed.

*6 The sum of +power -power must be less than output power.

*7 RC is applied to remote ON/OFF option. RC is isolated with input/output and FG.

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

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

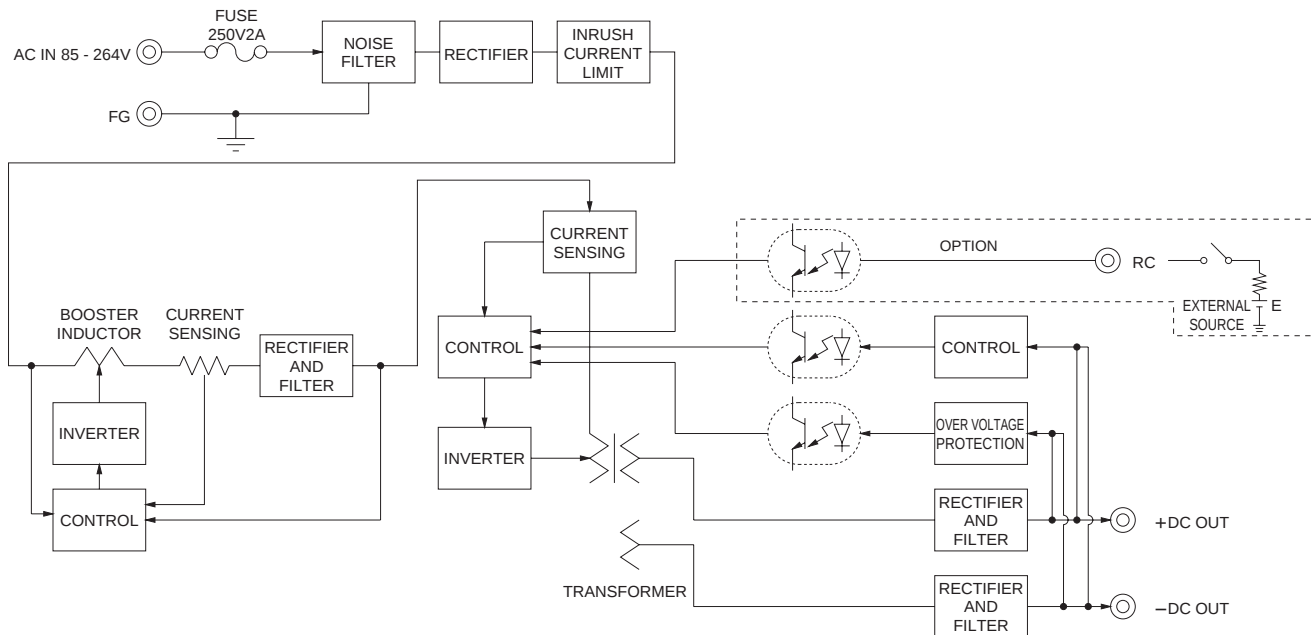
*10 Please contact us about class C.

* Parallel operation with other model is not possible.

* Derating is required when operated with cover.

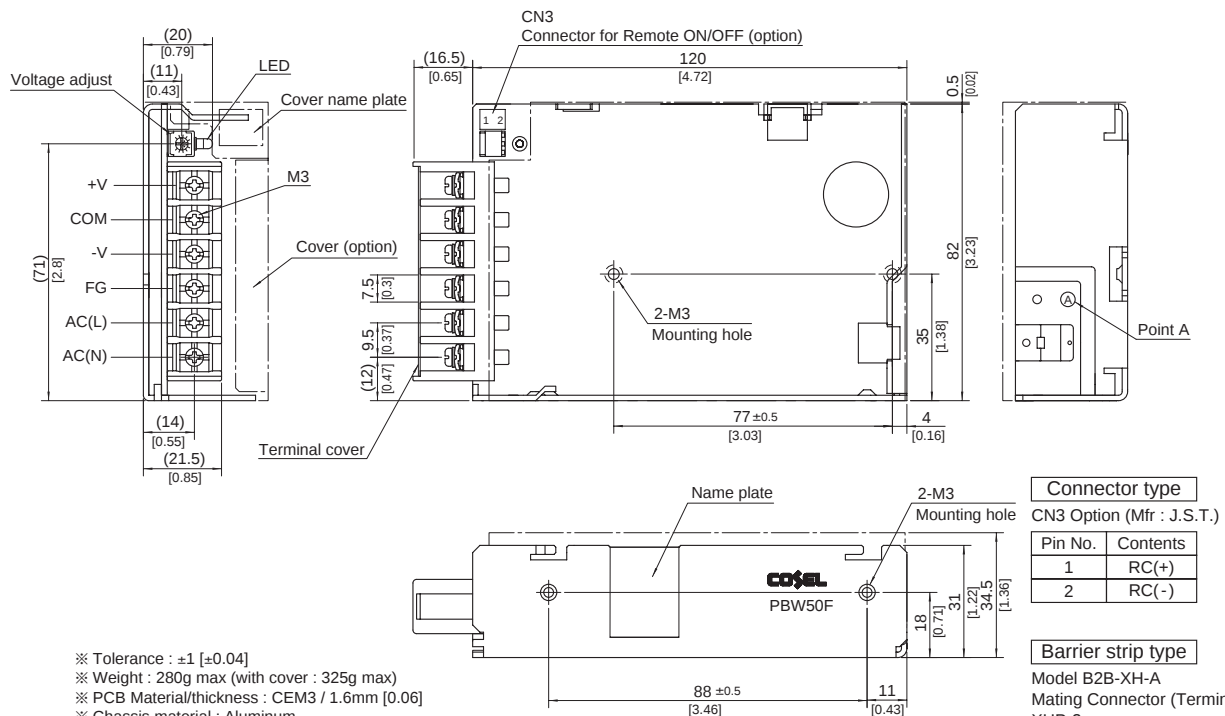
* A sound may occur from power supply at peak loading.

Block diagram



External view

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



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 280g max (with cover : 325g max)
- ※ PCB Material/thickness : CEM3 / 1.6mm [0.06]
- ※ Chassis material : Aluminum
- ※ Dimensions in mm, [] = inches
- ※ Mounting torque : $0.49\text{N} \cdot \text{m}$ (5kgf $\cdot$ cm) max
- ※ Screw tightening torque : M3 $0.8\text{N} \cdot \text{m}$ (8.5kgf $\cdot$ cm) max
- ※ Please connect safety ground to the unit in 2-M3 holes.



Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро ЕМС, входит в ГК Макро Групп)
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- инженерная поддержка проектов заказчиков
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