

PLA15F

Ordering information

PL 1 A 2 15 3 F 4 - 5 - 6

RoHS



Information the Home page is the latest.

**Recommended EMI/EMC Filter
NAC-04-472**

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

 *The EMI/EMC 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
 J: Connector interface
 T: Vertical terminal block
 N1: with DIN rail

See 5.1 in Instruction Manual.

SPECIFICATIONS

	MODEL	PLA15F-5	PLA15F-12	PLA15F-15	PLA15F-24
INPUT	VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3			
	CURRENT[A]	ACIN 100V 0.4typ (Io=90%) ACIN 115V 0.4typ (Io=100%) ACIN 230V 0.25typ (Io=100%)			
	FREQUENCY[Hz]	50 / 60 (47 - 63)			
	EFFICIENCY[%]	ACIN 100V 72.5typ (Io=90%) ACIN 115V 73.5typ (Io=100%) ACIN 230V 75.5typ (Io=100%)	75.5typ (Io=90%) 77.0typ (Io=100%) 78.5typ (Io=100%)	77.0typ (Io=90%) 78.5typ (Io=100%) 79.5typ (Io=100%)	78.0typ (Io=90%) 79.0typ (Io=100%) 80.0typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V 16typ (Io=90%) Ta=25°C at cold start ACIN 115V 16typ (Io=100%) Ta=25°C at cold start ACIN 230V 32typ (Io=100%) Ta=25°C at cold start			
	LEAKAGE CURRENT[mA]	0.30max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)			
	VOLTAGE[V]	5	12	15	24
	CURRENT[A]	3	1.3	1	0.7
	WATTAGE[W]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 15.0	15.6	15.0	16.8
	LINE REGULATION[mV] *4	20max	48max	60max	96max
OUTPUT	LOAD REGULATION[mV] *4	40max	100max	120max	150max
	RIPPLE[mVp-p] *5	0 to +50°C 80max -10 to 0°C 140max Io=0 to 35% 160max	120max 160max 240max	120max 160max 240max	120max 160max 280max
	RIPPLE NOISE[mVp-p] *5	0 to +50°C 120max -10 to 0°C 160max Io=0 to 35% 240max	150max 180max 300max	150max 180max 300max	150max 180max 320max
	TEMPERATURE REGULATION[mV]	0 to +50°C 50max -10 to +50°C 60max	120max 150max	150max 180max	240max 290max
	DRIFT[mV] *2	20max	48max	60max	96max
	START-UP TIME[ms]	200typ (ACIN 115V, Io=100%) *Start-up time is 700 ms typ for less than 1 minute of applying input again from turning off the input voltage.			
	HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40
	OUTPUT VOLTAGE SETTING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96
	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
PROTECTION CIRCUIT AND OTHERS	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60
	OPERATING INDICATION	LED (Green)			
	REMOTE SENSING	Not provided			
	REMOTE ON/OFF	Not provided			
ISOLATION	INPUT-OUTPUT	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-FG	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At room temperature)			
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE *5	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes			
	IMPACT	196.1m/s² (20G), 11ms, once each X, Y and Z axes			
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN			
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B			
	HARMONIC ATTENUATOR *8	Complies with IEC61000-3-2 class A			

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	38 X 80 X 73mm [1.50 X 3.15 X 2.87 inches] (Excluding terminal block and screw) (W X H X D) / 250g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details. When the load factor is 0 - 35%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.

*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.

*3 Output power derating is required. As for DC input, consult us for advice.

*4 Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 35% load or less.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 Consult us about other classes.

*9 Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

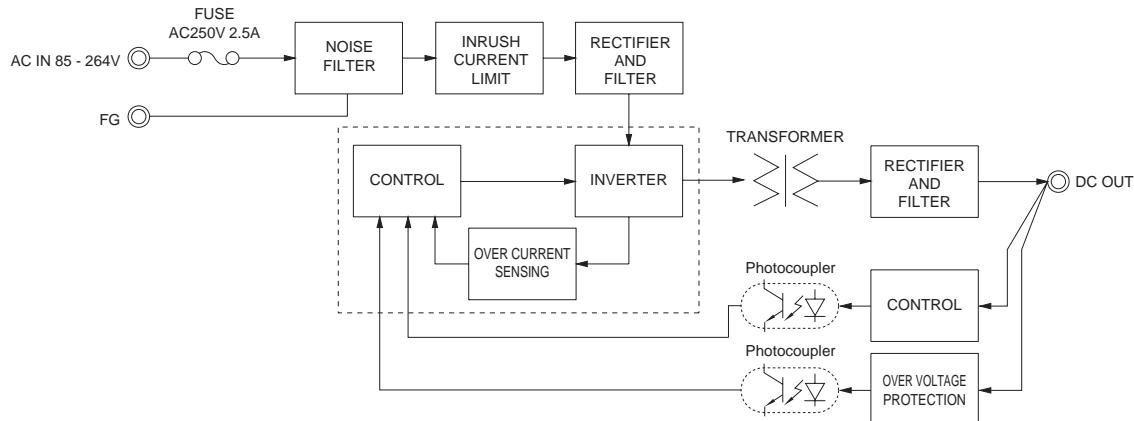
*10 Parallel operation is not possible with this mode.

*11 Sound noise may be heard from the power supply when used for pulse load.

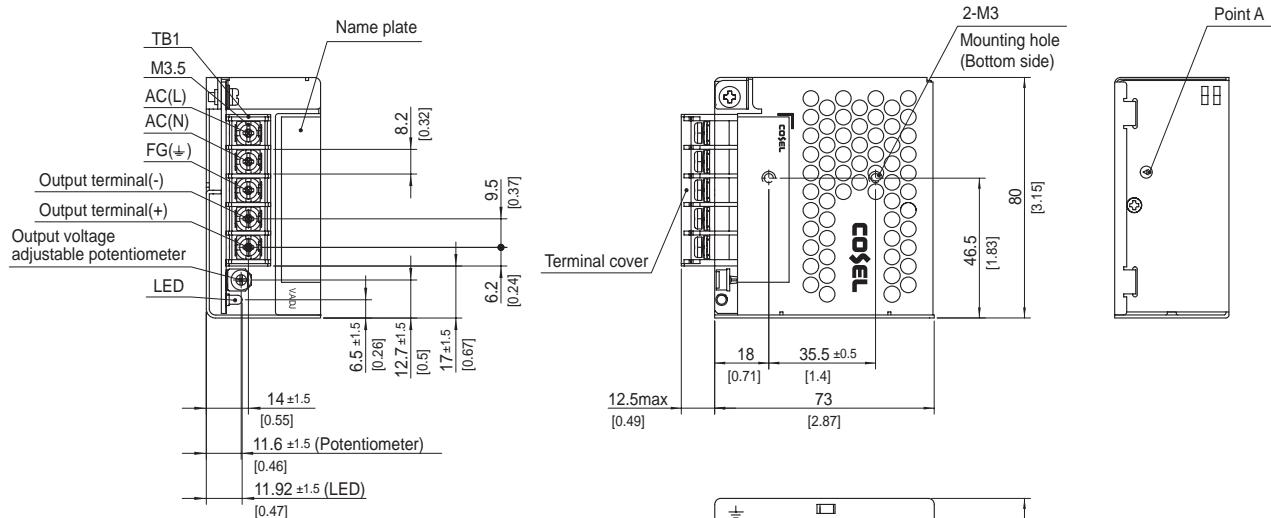
Features

- Compact design (Depth: 73mm 2.87inches)
- Low power consumption (1.0W typ AC240Vin, no load at standard model)
- UL508 approved (Except option -J), and complies with SEMI F47
- Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view



※ Tolerance : ± 1 [± 0.04]
 ※ Weight : 250g max
 ※ PCB Material/thickness : CEM-3 / 1.6mm [0.06inches]
 ※ Chassis material : Electric galvanizing steel board
 ※ Case material : Electric galvanizing steel board
 ※ Dimensions in mm, []-inches
 ※ Mounting torque : 0.6N · m max
 ※ Screw tightening torque : 1.0N · m max

PLA30F

Ordering information

PL A 30 F - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



RoHS

Recommended EMI/EMC Filter
NAC-04-472High voltage pulse noise type : NAP series
Low leakage current type : NAM series*The EMI/EMC Filter is recommended
to connect with several devices.

Information the Home page is the latest.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal input
- ⑤ Output voltage
- ⑥ Optional *
C: with Coating
J : Connector interface
T : Vertical terminal block
N1: with DIN rail

See 5.1 in Instruction Manual.

SPECIFICATIONS

MODEL	PLA30F-5	PLA30F-12	PLA30F-15	PLA30F-24
INPUT	VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3		
	ACIN 100V	0.7typ (Io=90%)		
	ACIN 115V	0.7typ (Io=100%)		
	ACIN 230V	0.4typ (Io=100%)		
	FREQUENCY[Hz]	50 / 60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V 73.0typ (Io=90%) ACIN 115V 74.0typ (Io=100%) ACIN 230V 77.0typ (Io=100%)	80.0typ (Io=90%) 80.5typ (Io=100%) 81.0typ (Io=100%)	81.0typ (Io=90%) 81.5typ (Io=100%) 82.0typ (Io=100%)
	INRUSH CURRENT[A]	ACIN 100V 16typ (Io=90%) Ta=25°C at cold start ACIN 115V 16typ (Io=100%) Ta=25°C at cold start ACIN 230V 32typ (Io=100%) Ta=25°C at cold start		82.5typ (Io=90%) 83.0typ (Io=100%) 83.5typ (Io=100%)
	LEAKAGE CURRENT[mA]	0.65max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)		
	VOLTAGE[V]	5	12	15
	CURRENT[A]	6	2.5	2
OUTPUT	WATTAGE[W]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 30.0	30.0	30.0
	LINE REGULATION[mV]	*4 20max	48max	60max
	LOAD REGULATION[mV]	*4 40max	100max	120max
	RIPPLE[mVp-p] *1	0 to +50°C 80max -10 to 0°C 140max	120max 160max	120max 160max
	RIPPLE NOISE[mVp-p] *1	0 to +50°C 120max -10 to 0°C 160max	150max 180max	150max 180max
	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]	150typ (ACIN 115V, Io=100%)		
	HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50
PROTECTION CIRCUIT AND OTHERS	OUTPUT VOLTAGE SETTING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60
	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00
	OPERATING INDICATION	LED (Green)		
	REMOTE SENSING	Not provided		
ISOLATION	REMOTE ON/OFF	Not provided		
	INPUT-OUTPUT	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)		
ENVIRONMENT	OUTPUT-FG	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At room temperature)		
	OPERATING TEMP., HUMID. AND ALTITUDE *5	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes		
SAFETY AND NOISE REGULATIONS	IMPACT	196.1m/s² (20G), 11ms, once each X, Y and Z axes		
	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN		
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B		
	HARMONIC ATTENUATOR *8	Complies with IEC61000-3-2 class A		

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	38 X 80 X 88mm [1.50 X 3.15 X 3.46 inches] (Excluding terminal block and screw) (W X H X D) / 330g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.

*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.

*3 Output power derating is required. As for DC input, consult us for advice.

*4 Consult us about dynamic load and input response.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 Consult us about other classes.

*9 Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

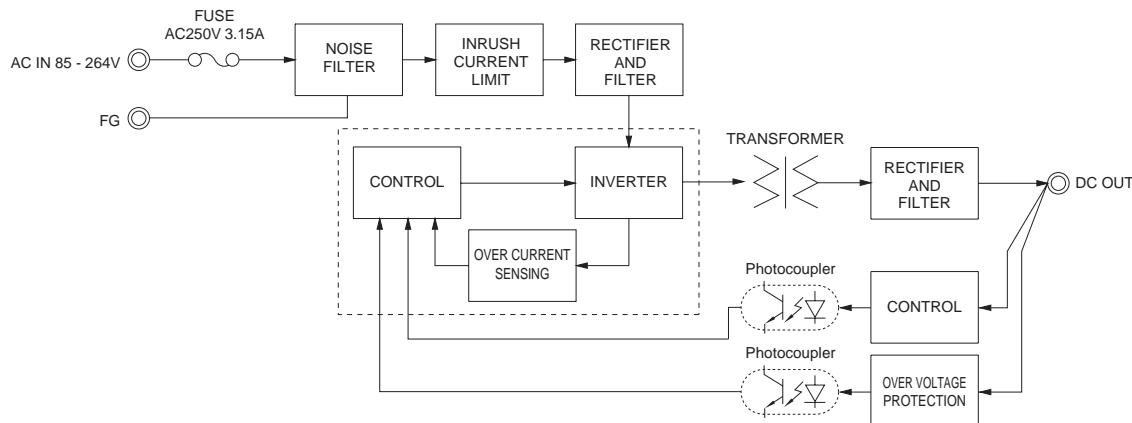
*10 Parallel operation is not possible with this mode.

*11 Sound noise may be heard from the power supply when used for pulse load.

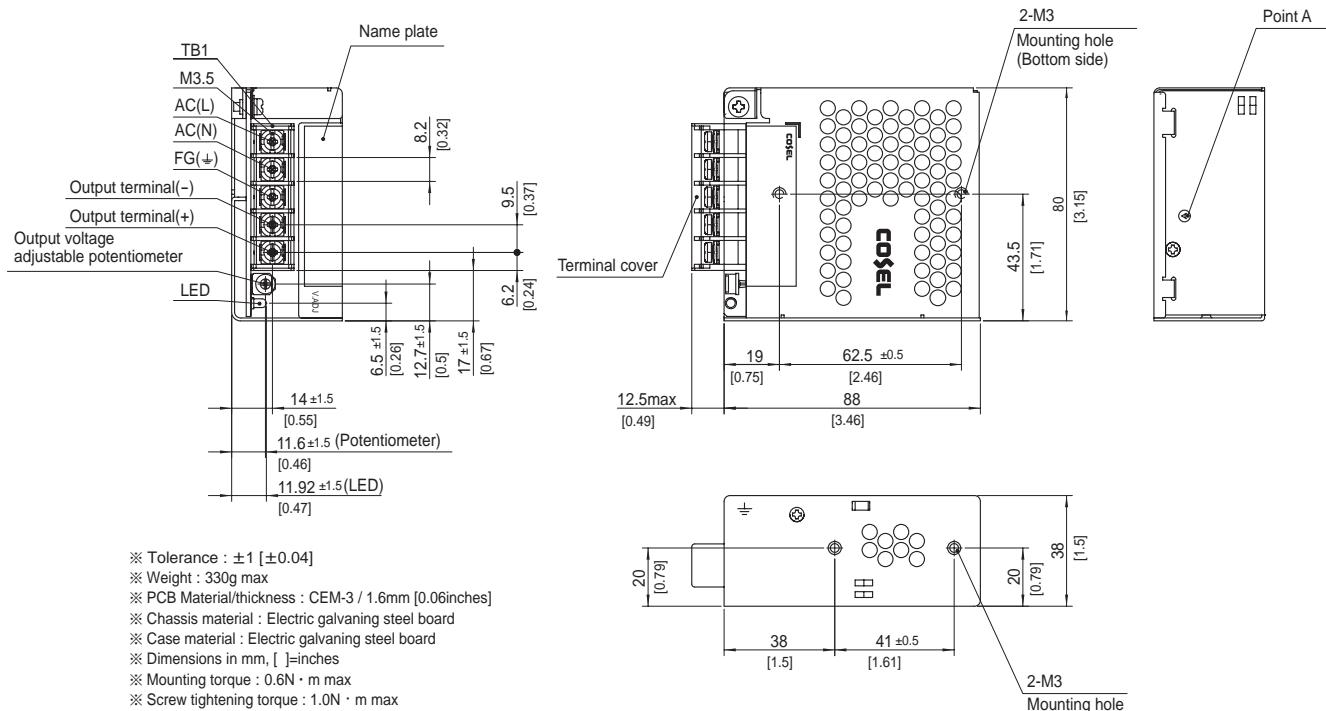
Features

- Compact design (Depth: 88mm 3.46inches)
- UL508 approved (Except option -J), and complies with SEMI F47
- Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view



PLA50F

Ordering information

PL A 50 F - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



RoHS



Information the Home page is the latest.

**Recommended EMI/EMC Filter
NAC-04-472**

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

 *The EMI/EMC 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 ^{*7}

- C: with Coating
- J : Connector interface
- T : Vertical terminal block
- N1: with DIN rail

See 5.1 in Instruction Manual.

SPECIFICATIONS

MODEL	PLA50F-5	PLA50F-12	PLA50F-15	PLA50F-24
VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) ^{*3}			
CURRENT[A]	ACIN 100V 0.6typ (Io=90%) ACIN 115V 0.6typ (Io=100%) ACIN 230V 0.3typ (Io=100%)	0.7typ (Io=90%) 0.7typ (Io=100%) 0.4typ (Io=100%)		
FREQUENCY[Hz]	50 / 60 (47 - 63)			
EFFICIENCY[%]	ACIN 100V 74.5typ (Io=90%) ACIN 115V 75.0typ (Io=100%) ACIN 230V 76.5typ (Io=100%)	80.0typ (Io=90%) 80.5typ (Io=100%) 82.0typ (Io=100%)	80.0typ (Io=90%) 80.5typ (Io=100%) 82.0typ (Io=100%)	81.5typ (Io=90%) 82.0typ (Io=100%) 84.0typ (Io=100%)
POWER FACTOR	ACIN 100V 0.97typ (Io=90%) ACIN 115V 0.97typ (Io=100%) ACIN 230V 0.85typ (Io=100%)	0.98typ (Io=90%) 0.98typ (Io=100%) 0.87typ (Io=100%)		
INRUSH CURRENT[A]	ACIN 100V 16typ (Io=90%) Ta=25°C at cold start ACIN 115V 16typ (Io=100%) Ta=25°C at cold start ACIN 230V 32typ (Io=100%) Ta=25°C at cold start			
LEAKAGE CURRENT[mA]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)			
VOLTAGE[V]	5	12	15	24
CURRENT[A]	8	4.3	3.5	2.2
WATTAGE[W]	ACIN 85-115V ACIN 115V-264V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)		
LINE REGULATION[mV]	^{*4} 20max	48max	60max	96max
LOAD REGULATION[mV]	^{*4} 40max	100max	120max	150max
RIPPLE[mVp-p]	^{*1} 0 to +45°C 80max -10 to 0°C 140max	120max 160max	120max 160max	120max 160max
RIPPLE NOISE[mVp-p]	^{*1} 0 to +45°C 120max -10 to 0°C 160max	150max 180max	150max 180max	150max 180max
TEMPERATURE REGULATION[mV]	^{0 to +45°C} 50max ^{-10 to +45°C} 60max	120max 150max	150max 180max	240max 290max
DRIFT[mV]	^{*2} 20max	48max	60max	96max
START-UP TIME[ms]	350typ (ACIN 115V, Io=100%)			
HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)			
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40
OUTPUT VOLTAGE SETTING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96
PROTECTION	OVERCURRENT PROTECTION Works over 105% of rating and recovers automatically			
CIRCUIT AND OTHERS	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00
	OPERATING INDICATION	LED (Green)		
	REMOTE SENSING	Not provided		
	REMOTE ON/OFF	Not provided		
ISOLATION	INPUT-OUTPUT	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-FG	AC500V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At room temperature)		
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE ^{*5}	-20 to +70°C, 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axes		
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axes		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN		
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B		
	HARMONIC ATTENUATOR ^{*6}	Complies with IEC61000-3-2 class A		

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	38 X 80 X 99mm [1.50 X 3.15 X 3.90 inches] (Excluding terminal block and screw) (W X H X D) / 400g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of $22\mu F$ and $0.1\mu F$ placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.

*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at $25^\circ C$.

*3 Output power derating is required. As for DC input, consult us for advice.

*4 Consult us about dynamic load and input response.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 Consult us about other classes.

*9 Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

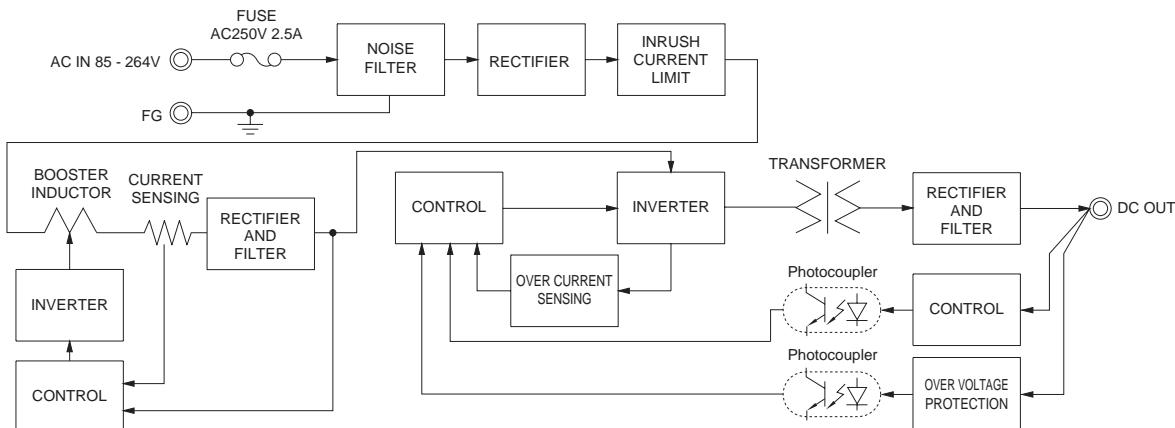
*10 Parallel operation is not possible with this mode.

*11 Sound noise may be heard from the power supply when used for pulse load.

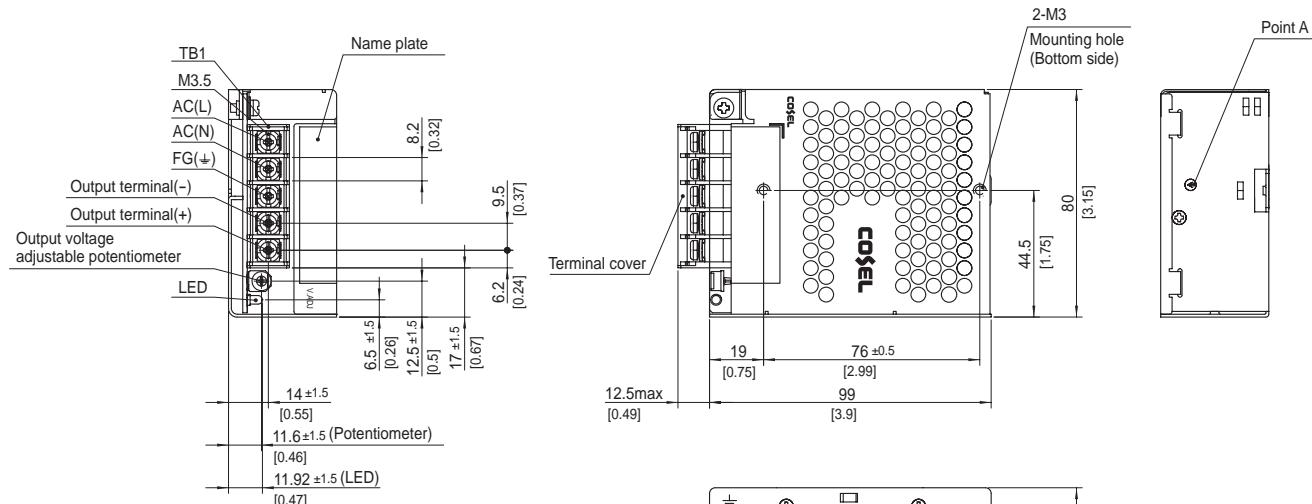
Features

- Compact design (Depth: 99mm 3.90inches)
- UL508 approved (Except option -J), and complies with SEMI F47
- Various connection interface options (vertical terminal [-T], AMP connector [-J])

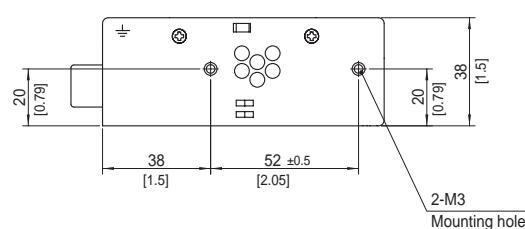
Block diagram



External view



※ Tolerance : ± 1 [± 0.04]
 ※ Weight : 400g max
 ※ PCB Material/Thickness : CEM-3 / 1.6mm [0.06inches]
 ※ Chassis material : Electric galvanizing steel board
 ※ Case material : Electric galvanizing steel board
 ※ Dimensions in mm, []-inches
 ※ Mounting torque : $0.6N \cdot m$ max
 ※ Screw tightening torque : $1.0N \cdot m$ max



PLA100F

Ordering information

PL A 100 F - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



RoHS

Recommended EMI/EMC Filter
NAC-04-472High voltage pulse noise type : NAP series
Low leakage current type : NAM series

*The EMI/EMC 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
R: Remote on/off
(Required external power source)

- J : Connector interface
- T : Vertical terminal block
- L : Lower power consumption
(0.5W max at AC240V_{in},
no load, ErP-compliant)
- M1: with DIN rail

See 5.1 in Instruction Manual.

SPECIFICATIONS

* Please consider "PBA100F-5-N" about 5V output with case cover.

MODEL	PLA100F-12	PLA100F-15	PLA100F-24	PLA100F-36	PLA100F-48
VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3				
CURRENT[A]	ACIN 100V 1.2typ (Io=90%) ACIN 115V 1.1typ (Io=100%) ACIN 230V 0.6typ (Io=100%)				
FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *3)				
EFFICIENCY[%]	ACIN 100V 82typ (Io=90%) ACIN 115V 82typ (Io=100%) ACIN 230V 85typ (Io=100%)	83typ (Io=90%) 83typ (Io=100%) 86typ (Io=100%)	85typ (Io=90%) 85typ (Io=100%) 88typ (Io=100%)	86typ (Io=90%) 86typ (Io=100%) 89typ (Io=100%)	86typ (Io=90%) 86typ (Io=100%) 89typ (Io=100%)
POWER FACTOR	ACIN 100V 0.98typ (Io=90%) ACIN 115V 0.98typ (Io=100%) ACIN 230V 0.95typ (Io=100%) * Power factor correction is stopped at AC250V or more.				
INRUSH CURRENT[A]	ACIN 100V 16typ (Io=90%) Ta=25°C at cold start ACIN 115V 16typ (Io=100%) Ta=25°C at cold start ACIN 230V 32typ (Io=100%) Ta=25°C at cold start				
LEAKAGE CURRENT[mA]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)				
VOLTAGE[V]	12	15	24	36	48
CURRENT[A]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 8.4	6.7	4.3	2.8	2.1
WATTAGE[W]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 100.8	100.5	103.2	100.8	100.8
LINE REGULATION[mV] *4	48max	60max	96max	144max	192max
LOAD REGULATION [mV] *4	Io=30 to 100% 100max	120max	150max	150max	300max
Io=0 to 30% Burst operation (Please contact us about detail)					
RIPPLE[mVp-p]	0 to +40°C 120max	120max	120max	150max	150max
Io: load factor	-10 to 0°C 160max	160max	160max	200max	400max
	Io=0 to 30% 500max	500max	500max	500max	500max
RIPPLE NOISE[mVp-p]	0 to +40°C 150max	150max	150max	200max	200max
Io: load factor	-10 to 0°C 180max	180max	180max	240max	500max
	Io=0 to 30% 600max	600max	600max	600max	600max
TEMPERATURE REGULATION[mV]	0 to +40°C 120max	150max	240max	360max	480max
DRIFT[mV]	-10 to +40°C 180max	180max	290max	440max	600max
	48max	60max	96max	144max	192max
START-UP TIME[ms]	500typ (ACIN 115V, Io=100%) Ta=25°C				
HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)				
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80
OUTPUT VOLTAGE SETTING[V]	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
OVERVOLTAGE PROTECTION[V]	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20
OPERATING INDICATION	LED (Green)				
REMOTE SENSING	Not provided				
REMOTE ON/OFF	Optional (Required external power source. Option -R)				
INPUT-OUTPUT • RC	*8 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	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)				
OUTPUT-RC	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)				
OPERATING TEMP., HUMID. AND ALTITUDE *5	-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max				
STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max				
VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3 minutes period, 60minutes each along X, Y and Z axes				
IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axes				
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN			
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B			
	HARMONIC ATTENUATOR *8	Complies with IEC61000-3-2 class A			

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	41 X 97 X 109mm [1.61 X 3.82 X 4.29 inches] (Excluding terminal block and screw) (W X H X D) / 500g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of $22\text{ }\mu\text{F}$ and $0.1\text{ }\mu\text{F}$ placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.

See 1.6 of Instruction Manual for more details.

When the load factor is 0 - 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.

*2 Drift is the change in DC output for an eight hour period after a half-

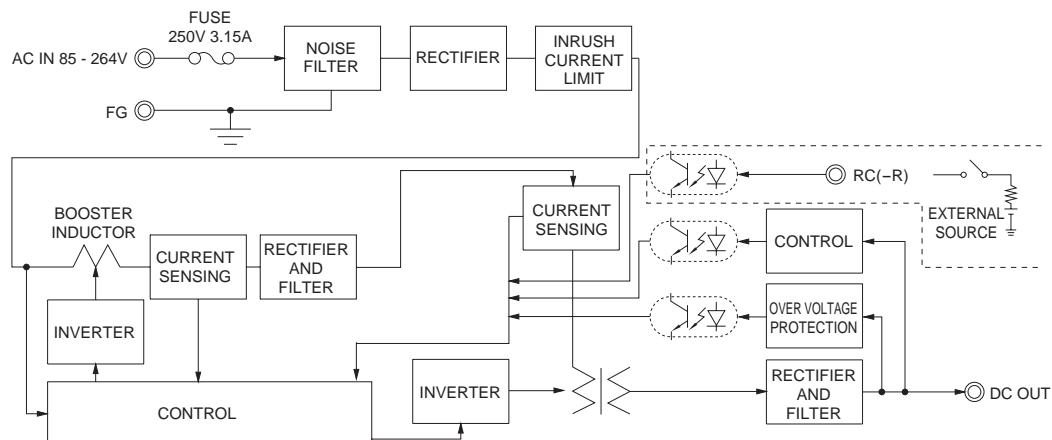
- hour warm-up at 25°C.
- ***3** Output power derating is required. As for DC input, consult us for advice.
- ***4** Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.
- ***5** Output power derating is required. See 3.2 in Instruction Manual.
- ***6** See 3.3 in Instruction Manual for more details.
- ***7** Consult us about safety agency approvals for the models with optional functions.

- * Consult us about other classes.
- * The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.
- * Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.
- * Parallel operation is not possible with this mode.
- * Sound noise may be heard from the power supply when used for pulse load.

Features

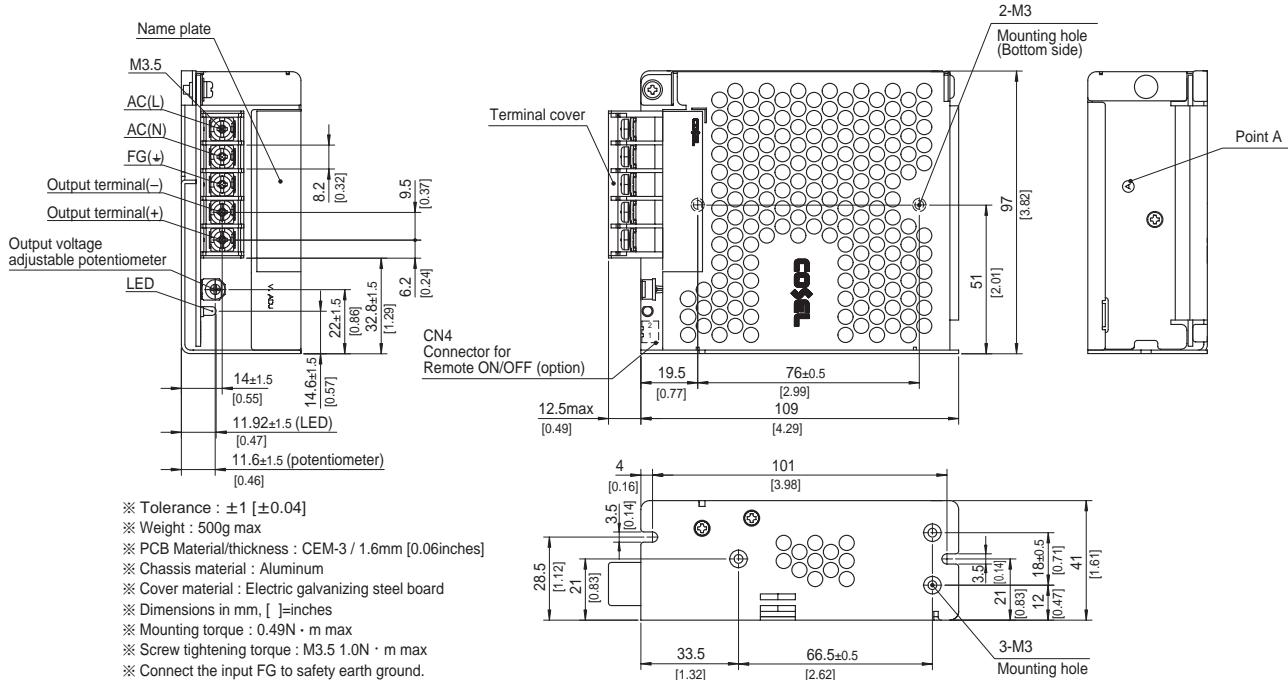
- Compact design (Depth: 109mm 4.29inches)
- High efficiency (88%typ PLA100F-24, AC230Vin, 100% load)
- Low power consumption (1.5W typ AC240Vin, no load at standard model)
- Lower power consumption (0.5Wmax AC240Vin, no load at option -L: see instruction manual)
- UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of **-R** option, **-J** option, **-N1** option and **-T** option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PLA150F

Ordering information

PL A 150 F -□ -□

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



RoHS

Recommended EMI/EMC Filter
NAC-04-472High voltage pulse noise type : NAP series
Low leakage current type : NAM series

*The EMI/EMC 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
R: Remote on/off
(Required external power source)

- J : Connector interface
- T : Vertical terminal block
- L : Lower power consumption
(0.5W max at AC240V_{in},
no load, ErP-compliant)
- M1: with DIN rail

See 5.1 in Instruction Manual.

SPECIFICATIONS

* Please consider "PBA150F-5-N" about 5V output with case cover.

MODEL	PLA150F-12	PLA150F-15	PLA150F-24	PLA150F-36	PLA150F-48
VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3				
CURRENT[A]	ACIN 100V 1.7typ (Io=90%) ACIN 115V 1.6typ (Io=100%) ACIN 230V 0.8typ (Io=100%)				
FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *3)				
EFFICIENCY[%]	ACIN 100V 84typ (Io=90%) ACIN 115V 84typ (Io=100%) ACIN 230V 87typ (Io=100%)	84typ (Io=90%) 84typ (Io=100%) 87typ (Io=100%)	87typ (Io=90%) 87typ (Io=100%) 90typ (Io=100%)	87typ (Io=90%) 87typ (Io=100%) 90typ (Io=100%)	87typ (Io=90%) 87typ (Io=100%) 90typ (Io=100%)
POWER FACTOR	ACIN 100V 0.98typ (Io=90%) ACIN 115V 0.98typ (Io=100%) ACIN 230V 0.95typ (Io=100%) * Power factor correction is stopped at AC250V or more.				
INRUSH CURRENT[A]	ACIN 100V 16typ (Io=90%) Ta=25°C at cold start ACIN 115V 16typ (Io=100%) Ta=25°C at cold start ACIN 230V 32typ (Io=100%) Ta=25°C at cold start				
LEAKAGE CURRENT[mA]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)				
VOLTAGE[V]	12	15	24	36	48
CURRENT[A]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 12.5	10	6.4	4.2	3.2
WATTAGE[W]	ACIN 85-115V Output derating is required at ACIN 115V or less (refer to instruction manual 3.2) ACIN 115V-264V 150.0	150.0	153.6	151.2	153.6
LINE REGULATION[mV] *4	48max	60max	96max	144max	192max
LOAD REGULATION [mV] *4	Io=30 to 100% 100max Io=0 to 30% Burst operation (Please contact us about detail)	120max	120max	150max	150max
RIPPLE[mVp-p] *5	0 to +40°C 120max -10 to 0°C 160max Io: load factor Io=0 to 30% 500max	120max	160max	160max	200max
RIPPLE NOISE[mVp-p] *5	0 to +40°C 150max -10 to 0°C 180max Io: load factor Io=0 to 30% 600max	150max	180max	240max	500max
TEMPERATURE REGULATION[mV] *5	0 to +40°C 120max -10 to +40°C 180max	150max	240max	360max	480max
DRIFT[mV] *2	48max	60max	96max	144max	192max
START-UP TIME[ms]	500typ (ACIN 115V, Io=100%) Ta=25°C				
HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)				
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80
OUTPUT VOLTAGE SETTING[V]	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically				
OVERVOLTAGE PROTECTION[V]	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	54.00 to 67.20
OPERATING INDICATION	LED (Green)				
REMOTE SENSING	Not provided				
REMOTE ON/OFF	Optional (Required external power source. Option -R)				
INPUT-OUTPUT • C	*8 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	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)				
OUTPUT-RC	*9 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)				
OPERATING TEMP., HUMID. AND ALTITUDE *5	-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max				
STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max				
VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3 minutes period, 60minutes each along X, Y and Z axes				
IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axes				
AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178, UL508 (Except option -J) Complies with DEN-AN				
CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B				
HARMONIC ATTENUATOR *8	Complies with IEC61000-3-2 class A				

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	41 X 97 X 129mm [1.61 X 3.82 X 5.08 inches] (Excluding terminal block and screw) (W X H X D) / 600g max
	COOLING METHOD	Convection
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.

See 1.6 of Instruction Manual for more details.

When the load factor is 0 - 30%, the switching power loss is reduced by burst operation, which will cause ripple and ripple noise to go beyond the specifications.

*2 Drift is the change in DC output for an eight hour period after a half-

hour warm-up at 25°C.

*3 Output power derating is required. As for DC input, consult us for advice.

*4 Consult us about dynamic load and input response. Measure the output voltage by using the average mode of the tester to deal with the burst operation at 30% load or less.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 Consult us about other classes.

*9 The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.

* Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

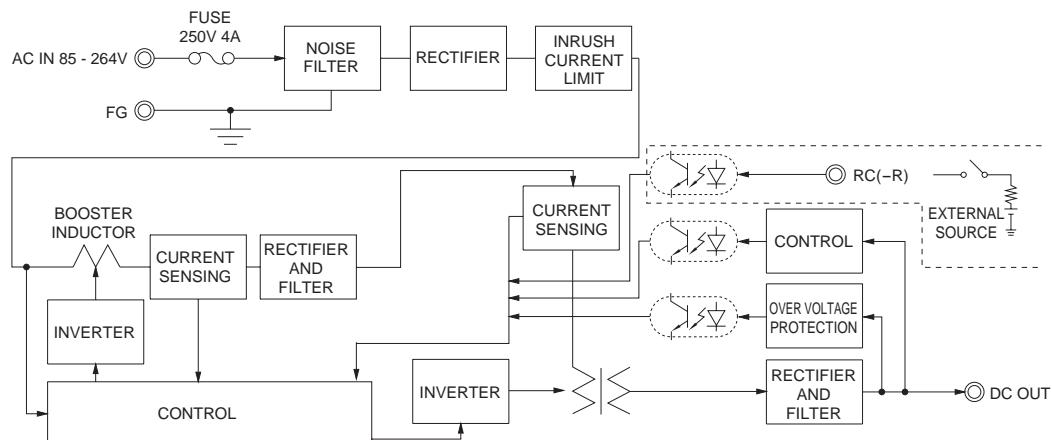
* Parallel operation is not possible with this mode.

* Sound noise may be heard from the power supply when used for pulse load.

Features

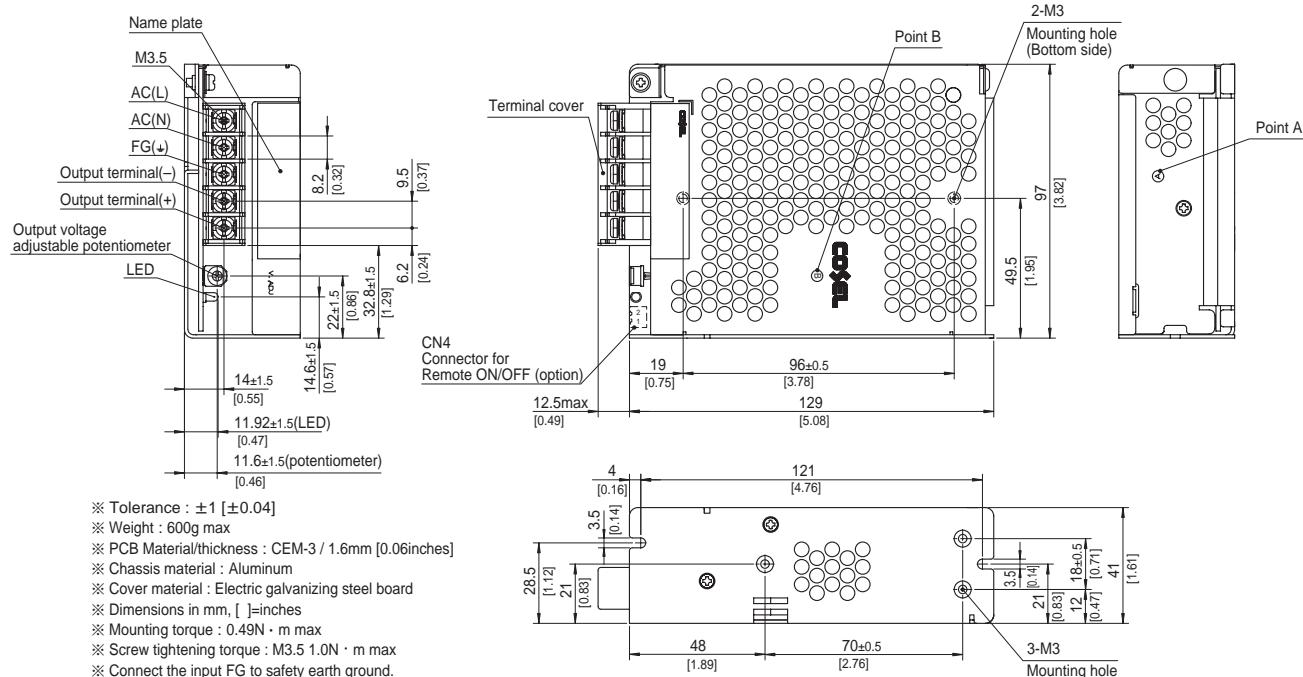
- Compact design (Depth: 129mm 5.08inches)
- High efficiency (90%typ PLA150F-24, AC230Vin, 100% load)
- Low power consumption (1.5W typ AC240Vin, no load at standard model)
- Lower power consumption (0.5Wmax AC240Vin, no load at option -L: see instruction manual)
- UL508 approved (Except option -J), and complies with SEMI F47 (see instruction manual 1.1)
- Various connection interface options (vertical terminal [-T], AMP connector [-J])

Block diagram



External view

The external size of -R option, -J option, -N1 option and -T option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



PLA300F

Ordering information

PL 1 A 2 300 3 F 4 - 5 - 6

RoHS

Recommended EMI/EMC Filter
NAC-06-472High voltage pulse noise type : NAP series
Low leakage current type : NAM series

*The EMI/EMC 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 *7

C: with Coating

G: Low leakage current

V: External potentiometer for output voltage adjustment

U: Low input voltage stop (Complies with SEMI F-47)

R: Remote on/off (Required external power source)

F4: Low speed fan

T2: Horizontal terminal block (non-screw-hold type)

See 5.1 in Instruction Manual.

SPECIFICATIONS

	MODEL	PLA300F-5	PLA300F-12	PLA300F-15	PLA300F-24	PLA300F-36	PLA300F-48
INPUT	VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *3 (DC input and AC265 - 277V input *3)					
	CURRENT[A]	ACIN 100V 3.1typ (Io=90%) ACIN 115V 3.0typ (Io=100%) ACIN 230V 1.5typ (Io=100%)	3.4typ (Io=90%) 3.3typ (Io=100%) 1.7typ (Io=100%)				
	FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *3)					
	EFFICIENCY[%]	ACIN 100V 73typ (Io=90%) ACIN 115V 74typ (Io=100%) ACIN 230V 77typ (Io=100%)	78typ (Io=90%) 78typ (Io=100%) 81typ (Io=100%)	80typ (Io=90%) 80typ (Io=100%) 83typ (Io=100%)	84typ (Io=90%) 84typ (Io=100%) 87typ (Io=100%)	84typ (Io=90%) 84typ (Io=100%) 87typ (Io=100%)	
	POWER FACTOR	ACIN 100V 0.98typ (Io=90%) ACIN 115V 0.98typ (Io=100%) ACIN 230V 0.95typ (Io=100%)					
	INRUSH CURRENT[A]	ACIN 100V 20typ (Io=90%) Ta=25°C at cold start ACIN 115V 20typ (Io=100%) Ta=25°C at cold start ACIN 230V 40typ (Io=100%) Ta=25°C at cold start					
	LEAKAGE CURRENT[mA]	0.75max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)					
	VOLTAGE[V]	5 ACIN 85-115V	12 Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)	15 ACIN 115V-264V	24 50	36 25	48 20
	CURRENT[A]					8.4	6.3
	WATTAGE[W]	ACIN 85-115V ACIN 115V-264V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)	250 300	300 300	302.4	302.4
OUTPUT	LINE REGULATION[mV] *4	20max	48max	60max	96max	144max	192max
	LOAD REGULATION[mV] *4	40max	100max	120max	150max	150max	300max
	RIPPLE[mVp-p] *1	0 to +50°C 80max -10 to 0°C 140max	120max	120max	120max	150max	150max
	RIPPLE NOISE[mVp-p] *1	0 to +50°C 120max -10 to 0°C 160max	150max	150max	150max	200max	200max
	TEMPERATURE REGULATION[mV]	0 to +50°C 50max -10 to +50°C 75max	120max 180max	150max 180max	240max 290max	360max 440max	480max 600max
	DRIFT[mV] *2	20max	48max	60max	96max	144max	192max
	START-UP TIME[ms]	300typ (ACIN 115V, Io=100%)					
	HOLD-UP TIME[ms]	20typ (ACIN 115V, Io=100%)					
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50 5.00 to 5.15	10.80 to 13.20 12.00 to 12.48	13.50 to 16.50 15.00 to 15.60	21.60 to 26.40 24.00 to 24.96	32.40 to 39.60 36.00 to 37.44	43.20 to 52.80 48.00 to 49.92
	OUTPUT VOLTAGE SETTING[V]						
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically					
	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20
	OPERATING INDICATION	LED (Green)					
	REMOTE SENSING	Not provided					
	REMOTE ON/OFF	Optional (Required external power source. Option -R)					
ISOLATION	INPUT-OUTPUT • RC *10	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 *10	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)					
	OUTPUT-RC *10	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)					
ENVIRONMENT	OPERATING TEMP, HUMID. AND ALTITUDE *5	-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max					
	STORAGE TEMP, HUMID. AND ALTITUDE	-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max					
	VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes					
	IMPACT	196.1m/s² (20G), 11ms, once each X, Y and Z axes					
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178 Complies with DEN-AN					
	CONDUCTED NOISE	Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B					
	HARMONIC ATTENUATOR *9	Complies with IEC61000-3-2 class A					

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	102 X 41 X 190mm [4.02 X 1.61 X 7.48 inches] (Excluding terminal block and screw) (W X H X D) / 1.0kg max
	COOLING METHOD	*8 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of 22 μ F and 0.1 μ F placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103. See 1.6 of Instruction Manual for more details.

*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.

*3 Output power derating is required. Consult us if the power supply needs to be used for DC input, 440Hz input or AC265-277V input.

*4 Consult us about dynamic load and input response.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 The fan speed slows down at no load.

*9 Consult us about other classes.

*10 The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.

* Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

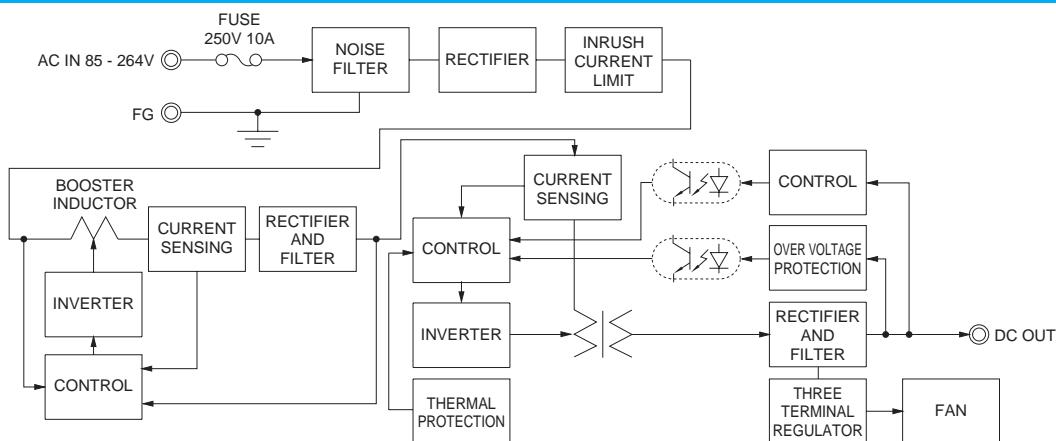
* Parallel operation is not possible with this mode.

* Sound noise may be heard from the power supply when used for pulse load.

Features

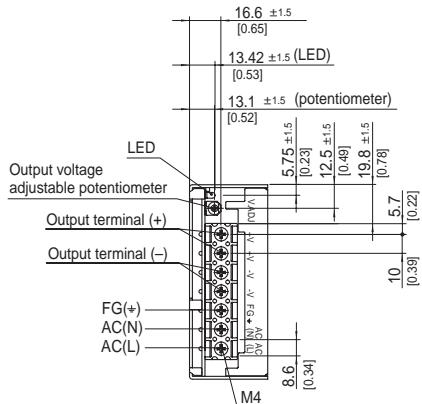
- Cost-effective
- Longer life (see Instruction Manual)
- Low profile (meets 1U height = 41 mm or 1.61 inches)
- Wide operating temperature range (-20°C to +70°C see instruction manual)
- Screw hold type terminal block
- Slow fan speed at no load
- Many optional functions
- Complies with SEMI F-47 (-U option, see Instruction Manual for details)

Block diagram

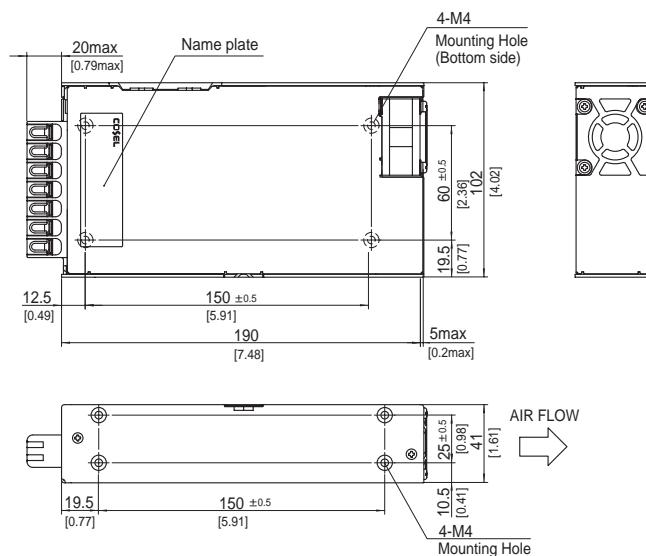


External view

The external size of -V option, -R option, and -T2 option models is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



※ Tolerance : ±1 [±0.04]
 ※ Weight : 1.0kg max
 ※ PCB Material/thickness : CEM-3 / 1.6mm [0.06inches]
 ※ Chassis material : Aluminum
 ※ Case material : Electric galvanizing steel board
 ※ Dimensions in mm, []=inches
 ※ Mounting torque : 1.2N · m max
 ※ Screw tightening torque : 1.6N · m max
 ※ Connect the input FG to safety earth ground.



PLA600F

Ordering information

PL A 600 F -□ -□

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



RoHS

Recommended EMI/EMC Filter
NAC-16-472High voltage pulse noise type : NAP series
Low leakage current type : NAM series

*The EMI/EMC 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 *7

C : with Coating

G : Low leakage current

V : External potentiometer for output voltage adjustment

U : Low input voltage stop (Complies with SEMI F-47)

W: Parallel operation, LV alarm Remote sensing

R : Remote on/off (Required external power source)

F4: Low speed fan

T2: Horizontal terminal block (non-screw-hold type)

See 5.1 in Instruction Manual.

SPECIFICATIONS

	MODEL	PLA600F-5	PLA600F-12	PLA600F-15	PLA600F-24	PLA600F-36	PLA600F-48		
INPUT	VOLTAGE[V]	AC85 - 264 1φ (Output derating is required at AC85V - 115V. See 1.1 and 3.2 in Instruction Manual) *4 (DC input and AC265 - 277V input *4)							
	CURRENT[A]	ACIN 100V	6.2typ (Io=90%)	6.7typ (Io=90%)					
		ACIN 115V	6.0typ (Io=100%)	6.5typ (Io=100%)					
		ACIN 230V	3.0typ (Io=100%)	3.2typ (Io=100%)					
	FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *4)							
	EFFICIENCY[%]	ACIN 100V	74typ (Io=90%)	81typ (Io=90%)	81typ (Io=90%)	84typ (Io=90%)	85typ (Io=90%)	85typ (Io=90%)	
		ACIN 115V	75typ (Io=100%)	81typ (Io=100%)	81typ (Io=100%)	84typ (Io=100%)	85typ (Io=100%)	85typ (Io=100%)	85typ (Io=100%)
		ACIN 230V	77typ (Io=100%)	84typ (Io=100%)	84typ (Io=100%)	88typ (Io=100%)	88typ (Io=100%)	88typ (Io=100%)	88typ (Io=100%)
	POWER FACTOR	ACIN 100V	0.98typ (Io=90%)						
		ACIN 115V	0.98typ (Io=100%)						
ACIN 230V		0.95typ (Io=100%)							
INRUSH CURRENT[A]	ACIN 100V	20/40typ (Io=90%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)							
	ACIN 115V	20/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)							
	ACIN 230V	40/40typ (Io=100%) (Primary inrush current /Secondary inrush current) (More than 3sec to re-start)							
LEAKAGE CURRENT[mA]	1.5max (ACIN 115V / 240V, 60Hz, Io=100%, According to IEC60950-1 and DEN-AN)								
OUTPUT	VOLTAGE[V]	5	12	15	24	36	48		
	CURRENT[A]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)						
		ACIN 115V-264V	100	50	40	25	16.7	12.5	
	WATTAGE[W]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)						
		ACIN 115V-264V	500	600	600	600	601.2	600	
	LINE REGULATION[mV]	*8	20max	48max	60max	96max	144max	192max	
	LOAD REGULATION[mV]	*8	40max	100max	120max	150max	150max	300max	
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	120max	120max	150max	150max	
		*1 -20 to 0°C	140max	160max	160max	160max	160max	400max	
	RIPPLE NOISE[mVp-p]	0 to +50°C	120max	150max	150max	150max	200max	200max	
*1 -20 to 0°C		160max	180max	180max	180max	240max	500max		
TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max	240max	360max	480max		
	-20 to +50°C	75max	180max	180max	290max	440max	600max		
DRIFT[mV]	*2	20max	48max	60max	96max	144max	192max		
START-UP TIME[ms]		300typ (ACIN 115V, Io=100%)							
HOLD-UP TIME[ms]		20typ (ACIN 115V, Io=100%)							
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 to 5.50	10.80 to 13.20	13.50 to 16.50	21.60 to 26.40	32.40 to 39.60	43.20 to 52.80			
OUTPUT VOLTAGE SETTING[V]	5.00 to 5.15	12.00 to 12.48	15.00 to 15.60	24.00 to 24.96	36.00 to 37.44	48.00 to 49.92			
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically							
	OVERVOLTAGE PROTECTION[V]	5.75 to 7.00	13.80 to 16.80	17.25 to 21.00	27.60 to 33.60	41.40 to 50.40	55.20 to 67.20		
	OPERATING INDICATION	LED (Green)							
	REMOTE SENSING	Optional (Option -W)							
	REMOTE ON/OFF	Optional (Required external power source. Option -R)							
ISOLATION	INPUT-OUTPUT • RC	*3	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	*3	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)						
	OUTPUT-RC	*3	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At room temperature)						
ENVIRONMENT	OPERATING TEMP, HUMID. AND ALTITUDE	*5	-20 to +70°C (Output derating is required), 20 - 90%RH (Non condensing), 3,000m (10,000 feet) max						
	STORAGE TEMP, HUMID. AND ALTITUDE		-20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000 feet) max						
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axes						
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axes						
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178	Complies with DEN-AN						
	CONDUCTED NOISE		Complies with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B						
	HARMONIC ATTENUATOR	*10	Complies with IEC61000-3-2 class A						

SPECIFICATIONS

OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

*1 This is the result of measurement of the testing board with capacitors of 22μF and 0.1μF placed at 150 mm from the output terminals by a 20 MHz oscilloscope or a ripple-noise meter equivalent to Keisoku-Giken RM103.
See 1.6 of Instruction Manual for more details.

*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C.

*3 The RC terminal is added to option -R models. The RC terminal is isolated from input, output, and FG.

*4 Output power derating is required. Consult us if the power supply needs to be used for DC input, 440Hz input or AC265-277V input.

*5 Output power derating is required. See 3.2 in Instruction Manual.

*6 See 3.3 in Instruction Manual for more details.

*7 Consult us about safety agency approvals for the models with optional functions.

*8 Consult us about dynamic load and input response.

*9 The fan speed slows down at no load.

*10 Consult us about other classes.

* Do not use the power supply in overcurrent conditions or in unspecified input voltage ranges. Otherwise the internal components may be damaged.

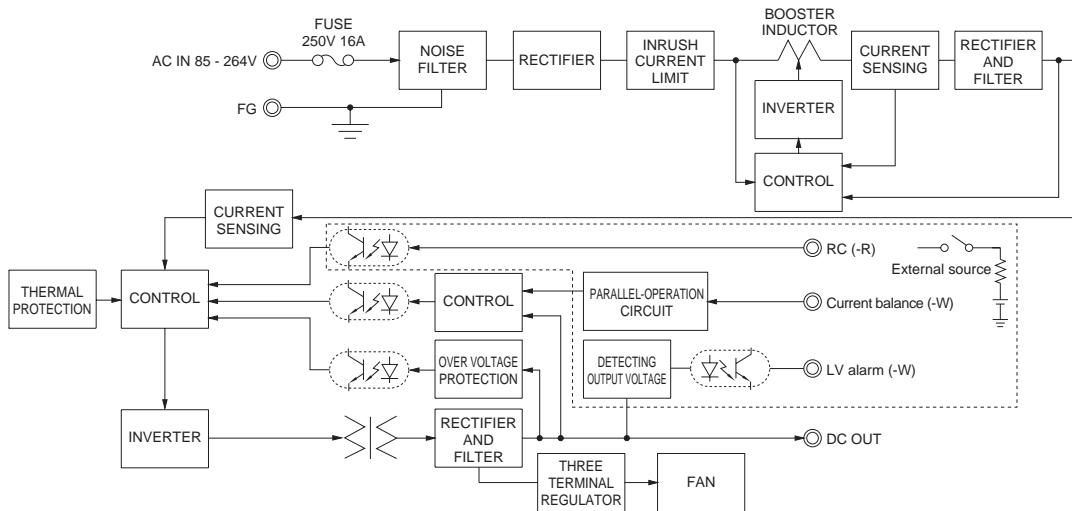
* Parallel operation is allowed for PLA600F models with the -W option only.

* Sound noise may be heard from the power supply when used for pulse load.

Features

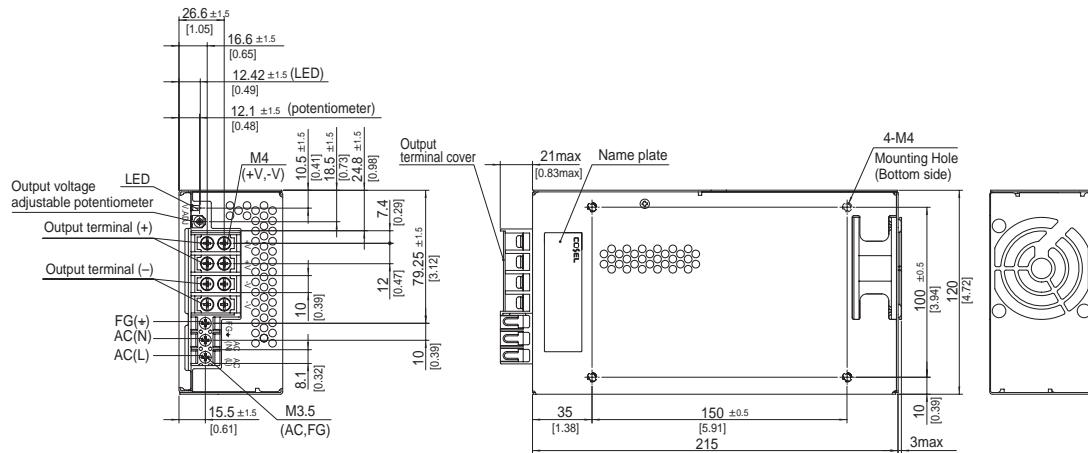
- Cost-effective
- Longer life (see Instruction Manual)
- Low profile (meets 1U height = 41 mm or 1.61 inches)
- Wide operating temperature range (-20°C to +70°C see instruction manual)
- Screw hold type terminal block
- Slow fan speed at no load
- Many optional functions
- Complies with SEMI F-47 (-U option, see Instruction Manual for details)

Block diagram



External view

The external size of -V option, -W option, -R option, and -T2 option is different from the standard model. See "5. Options and Others" in Instruction Manual for more details.



※ Tolerance : ±1 [±0.04]

※ Weight : 2.0kg max

※ PCB Material/Thickness : FR-4 / 1.6mm [0.06inches]

※ Chassis material : Electric galvanizing steel board

※ Case material : Electric galvanizing steel board

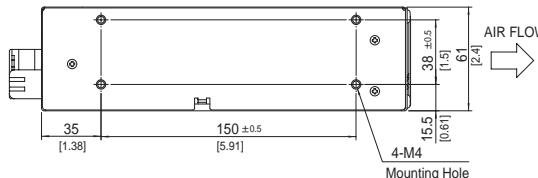
※ Dimensions in mm, []=inches

※ Mounting torque : 1.5N · m max

※ Screw tightening torque : M3.5 0.8N · m max

※ M4 1.6N · m max

※ Connect the input FG to safety earth ground.



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