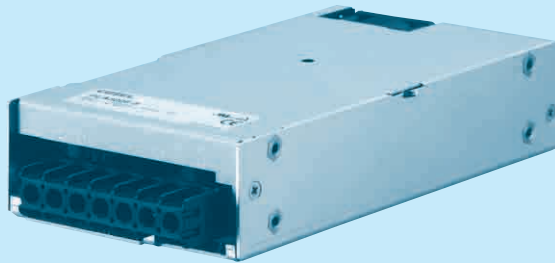
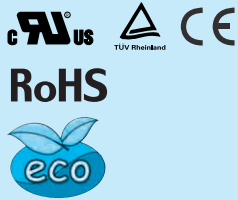


PLA300F

PL A 300 F -□ -□
 ① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-06-472



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
- 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 1 φ (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%)	3.4typ (Io=90%)					
		ACIN 115V	3.0typ (Io=100%)	3.3typ (Io=100%)					
		ACIN 230V	1.5typ (Io=100%)	1.7typ (Io=100%)					
	FREQUENCY[Hz]	50 / 60 (47 - 63) (DC input and 440Hz *3)							
	EFFICIENCY[%]	ACIN 100V	73typ (Io=90%)	78typ (Io=90%)	80typ (Io=90%)	84typ (Io=90%)	84typ (Io=90%)	84typ (Io=90%)	
		ACIN 115V	74typ (Io=100%)	78typ (Io=100%)	80typ (Io=100%)	84typ (Io=100%)	84typ (Io=100%)	84typ (Io=100%)	
		ACIN 230V	77typ (Io=100%)	81typ (Io=100%)	83typ (Io=100%)	87typ (Io=100%)	87typ (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)								
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	50	25	20	12.5	8.4	6.3	
	WATTAGE[W]	ACIN 85-115V	Output derating is required at ACIN 115V or less (refer to instruction manual 3.2)						
		ACIN 115V-264V	250	300	300	300	302.4	302.4	
	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	120max	120max	120max	150max	150max
		*1	-10 to 0°C	140max	160max	160max	160max	160max	400max
	RIPPLE NOISE[mVp-p]	*1	0 to +50°C	120max	150max	150max	150max	200max	200max
		*1	-10 to 0°C	160max	180max	180max	180max	240max	500max
	TEMPERATURE REGULATION[mV]	*1	0 to +50°C	50max	120max	150max	240max	360max	480max
		*1	-10 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	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/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 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

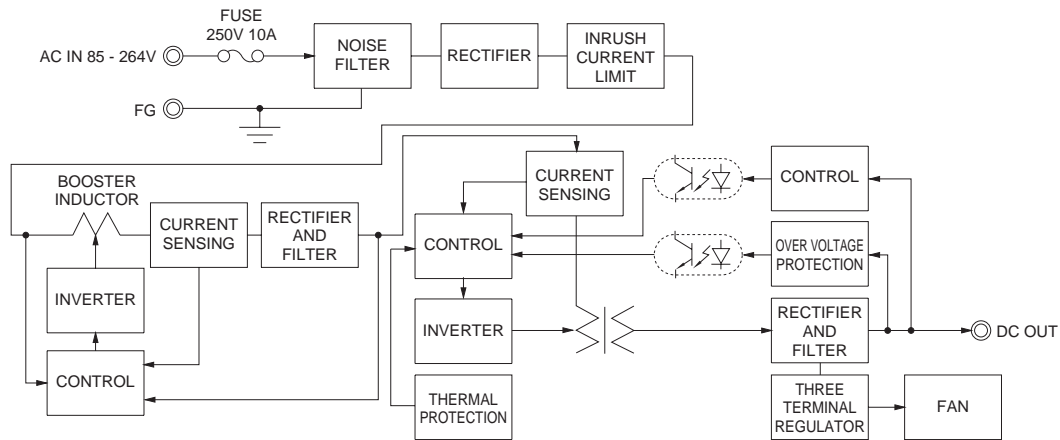
OTHERS	CASE SIZE/WEIGHT	102×41×190mm [4.02×1.61×7.48 inches] (Excluding terminal block and screw) (W×H×D) / 1.0kg max
	COOLING METHOD	*8 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- *1 This is the result of measurement of the testing board with capacitors of 22 μF and 0.1 μF 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

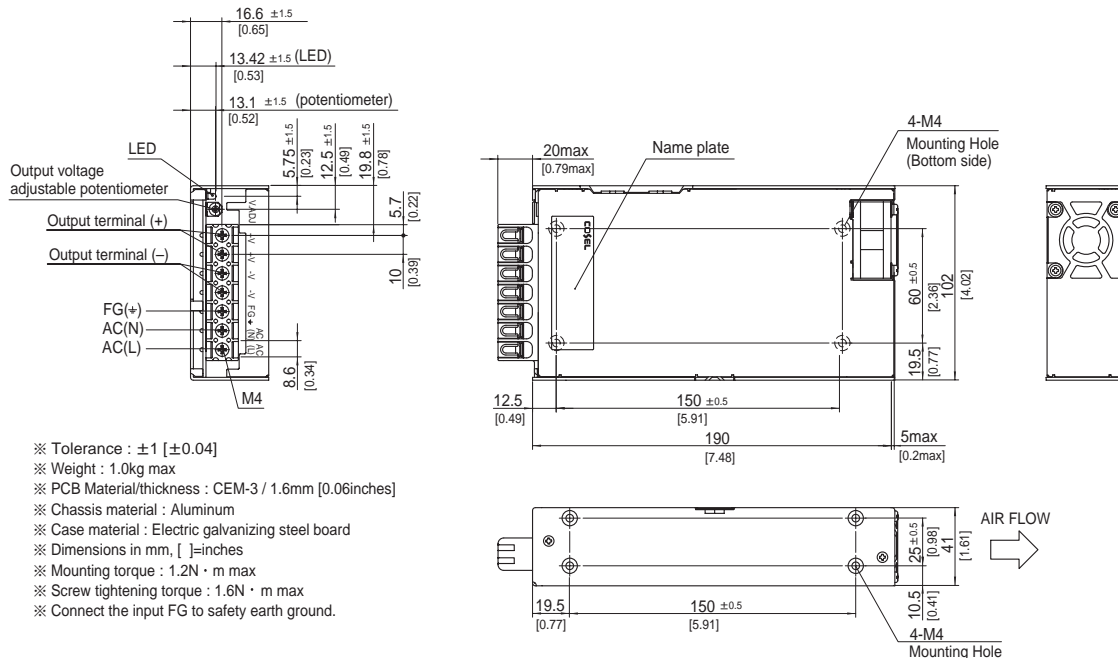
- Cost-effective
- Longer life (see Instruction Manual)
- Low profile (meets 1U height = 41 mm or 1.61 inches)
- Wide operating temperature range (-20°C to +70°C see instruction manual)
- Screw hold type terminal block
- Slow fan speed at no load
- Many optional functions
- Complies with SEMI F-47 (-U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

Block diagram



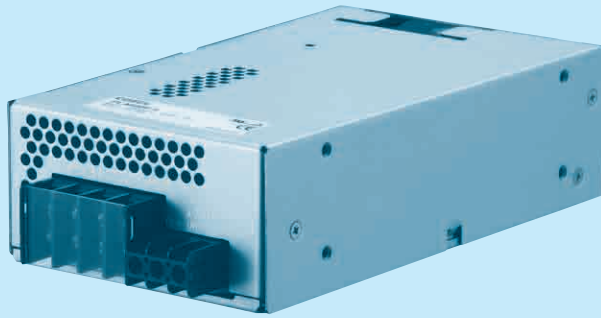
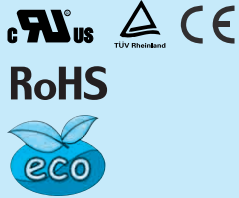
External view

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.



PLA600F

PL A 600 F -□ -□
 ① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-16-472



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
- 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 1 φ (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%)	
		ACIN 230V	77typ (Io=100%)	84typ (Io=100%)	84typ (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]	*1	0 to +50°C	80max	120max	120max	120max	150max	150max
			-20 to 0°C	140max	160max	160max	160max	160max	400max
	RIPPLE NOISE[mVp-p]	*1	0 to +50°C	120max	150max	150max	150max	200max	200max
			-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/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 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

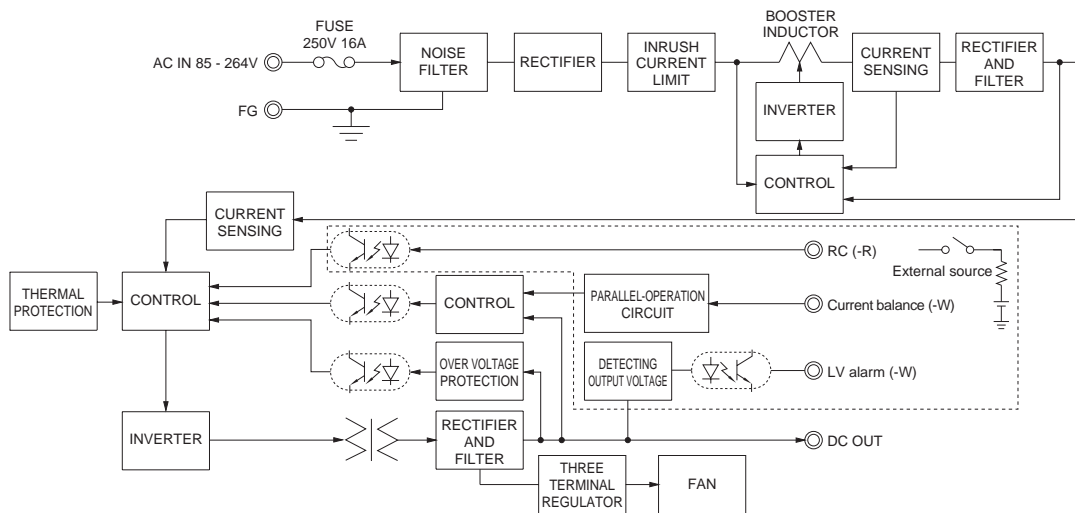
OTHERS	CASE SIZE/WEIGHT	120×61×215mm [4.72×2.40×8.46 inches] (Excluding terminal block and screw) (W×H×D) / 2.0kg max
	COOLING METHOD	*9 Forced cooling (internal fan)
WARRANTY	WARRANTY	*6 5 years (subject to the operating conditions)

- *1 This is the result of measurement of the testing board with capacitors of 22 μF and 0.1 μF 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

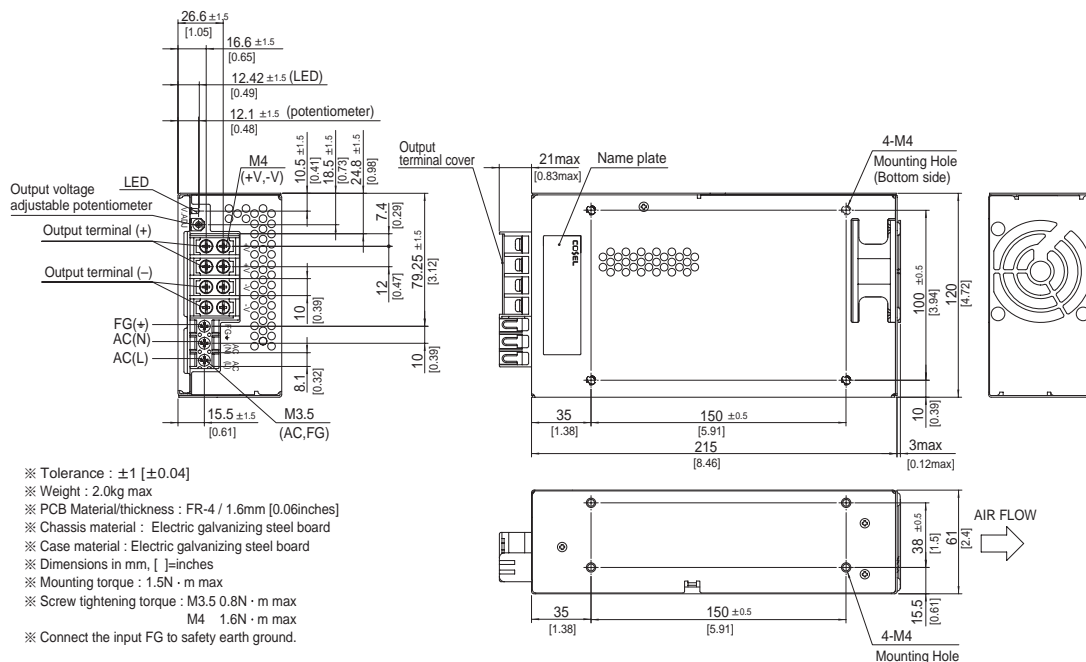
- Cost-effective
- Longer life (see Instruction Manual)
- Low profile (meets 1U height = 41 mm or 1.61 inches)
- Wide operating temperature range (-20°C to +70°C see instruction manual)
- Screw hold type terminal block
- Slow fan speed at no load
- Many optional functions
- Complies with SEMI F-47 (-U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