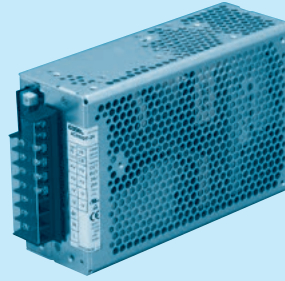


ADA600F

① ADA ② 600 ③ F ④ -24 ⑤ -□



Example recommended EMI/EMC filter
NAC-20-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
* A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
 - ② Output wattage
 - ③ Universal input
 - ④ Output voltage
 - ⑤ Optional *7
 - G : Low leakage current
 - E : Low leakage current and EMI class A
 - F : with Fan unit
 - T : Vertical terminal block
 - J : Connector type
 - C : with Coating
 - R : Remote ON/OFF
 - N1: DIN rail
 - W: Alarms and Redundant operation
- Specification is changed at option, refer to Instruction Manual.

Please refer to derating curve, because the rated load current depends on cooling method that is convection cooling or forced air.
* Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

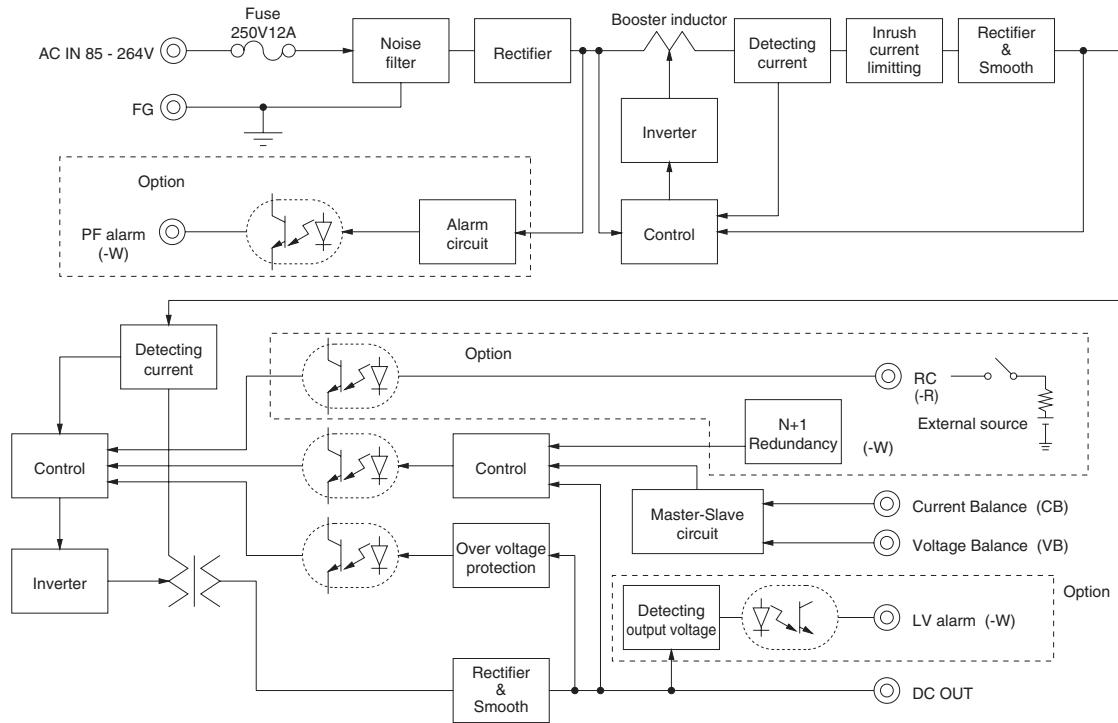
SPECIFICATIONS

	MODEL	ADA600F-24	ADA600F-30	ADA600F-36	ADA600F-48	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC 120 - 350 (AC64 or DC90 optionally available *6)				
	FREQUENCY[Hz]	50/60 (47 - 63) or DC				
	EFFICIENCY[%]	ACIN 100V	84typ (Io=100%)	86typ (Io=100%)	86typ (Io=100%)	86typ (Io=100%)
		ACIN 200V	86typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)	89typ (Io=100%)
	POWER FACTOR	ACIN 100V	0.99typ (Io=100%)			
		ACIN 200V	0.98typ (Io=100%)			
INRUSH CURRENT[A]	ACIN 100V *1	20typ (Io=100%) (More than 3sec.to re-start)				
	ACIN 200V *1	40typ (Io=100%) (More than 3sec.to re-start)				
LEAKAGE CURRENT[ma]		0.75max (60Hz, According to IEC60950 and DEN-AN) (Io=100%)				
OUTPUT	VOLTAGE[V]	24	30	36	48	
	CURRENT[A]	ACIN 100V *2	14 (Peak 25) convection	11 (Peak 20) convection	9 (Peak 16.5) convection	6.5 (Peak 12.5) convection
		ACIN 100V *2	21 (Peak 25) forced air	16.5 (Peak 20) forced air	14 (Peak 16.5) forced air	10.5 (Peak 12.5) forced air
		ACIN 200V *2	15 (Peak 31) convection	12 (Peak 24.5) convection	10 (Peak 20.5) convection	7 (Peak 15.5) convection
		ACIN 200V *2	25 (Peak 31) forced air	20 (Peak 24.5) forced air	16.5 (Peak 20.5) forced air	12.5 (Peak 15.5) forced air
LINE REGULATION[mV]	96max	120max	144max	192max		
LOAD REGULATION[mV]	150max	180max	240max	300max		
RIPPLE[mVp-p]	0 to +50°C *3	120max	160max	200max	200max	
	-10 - 0°C *3	160max	230max	260max	300max	
RIPPLE NOISE[mVp-p]	0 to +50°C *3	150max	190max	230max	250max	
	-10 - 0°C *3	180max	250max	280max	400max	
TEMPERATURE REGULATION[mV]	0 to +50°C	240max	300max	360max	480max	
DRIFT[mV]	*4	96max	120max	144max	192max	
START-UP TIME[ms]		500max (ACIN 100V, Io=100%)				
HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)				
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		21.6 - 27.0	27.0 - 33.0	33.0 - 41.0	41.0 - 52.8	
OUTPUT VOLTAGE SETTING[V]		23.5 - 24.5	29.0 - 31.0	35.0 - 37.0	47.0 - 49.0	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 101% of peak current and recovers automatically				
	OVERVOLTAGE PROTECTION[V]	31 - 34.5	40 - 48	51 - 60	64 - 76	
	OPERATING INDICATION	LED (Green)				
	ALARM OUTPUT	Detecting low input voltage(PF), detecting low output voltage(LV). (Optional : -W, refer to Instruction Manual 5)				
REMOTE ON/OFF(RC)	Requirement for external source (Option : -R, refer to Instruction Manual 5)					
ISOLATION	INPUT-OUTPUT · RC *5	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 *5	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +71°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 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				
SAFETY AND NOISE REGULATIONS	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis				
	AGENCY APPROVALS	UL60950-1, C-UL(CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)				
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
OTHERS	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 *8				
	CASE SIZE/WEIGHT	65 x 127 x 195mm [2.56 x 5 x 7.68 inches] (W x H x D) (without terminal block) /1.5kg max				
	COOLING METHOD	Convection/Forced air				

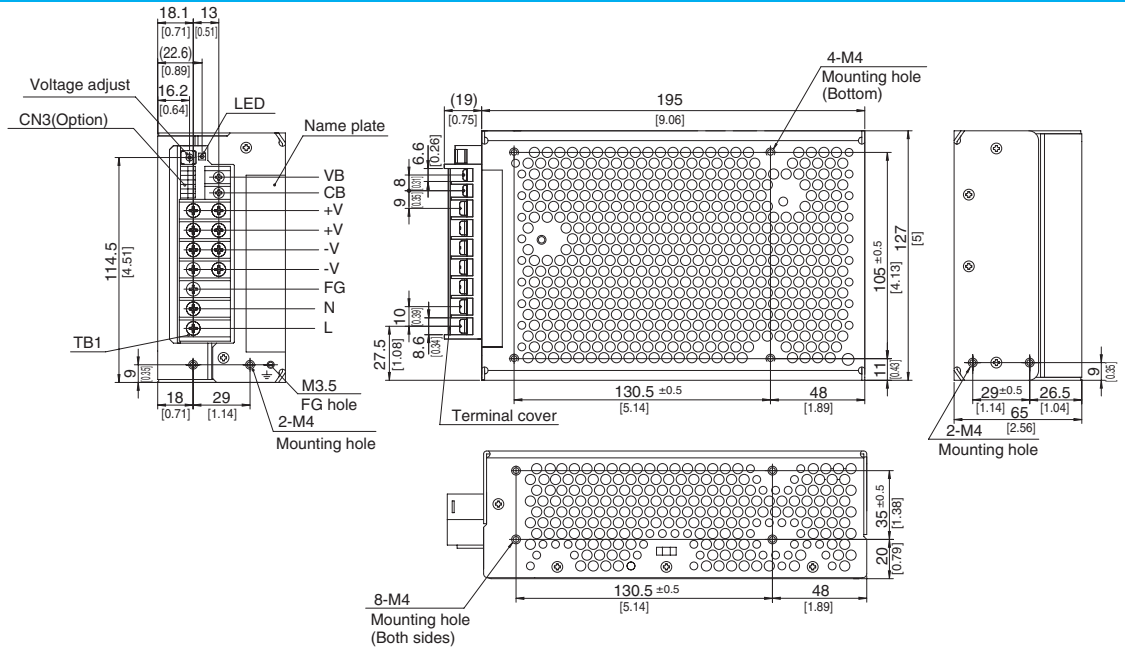
*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter (0.2ms or less) is excluded.
*2 Peak loading for 10sec. And Duty 35% max. Refer to Instruction Manual 4. Forced air is shown in Instruction Manual 2.3.
*3 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
*5 Applicable when remote control (optional) is added.
*6 Derating is required. Consult us for details.
*7 Please contact us about safety approvals for the model with option.
*8 Please contact us about class C.
* A sound may occur from power supply at pulse loading.

Block diagram



External view



※ Pin assign

Symbol	Function	Screw type
VB	Voltage balance	M3
CB	Current balance	
+V	Output terminal(+)	M4
-V	Output terminal(-)	
-V	Output terminal(-)	
-V	Output terminal(-)	
FG	Frame ground	
N	AC(N)	
L	AC(L)	

Average 21A max per pin for TB1

CN3(Optional)

Pin No.	Function
1	RC+ : Remote ON/OFF+(+R)
2	RC- : Remote ON/OFF(-R)
3-8	NC : N.C.
9	LV+ : LV Alarm(-W)
10	LV- : LV Alarm ground(-W)
11-12	NC : N.C.
13	PF+ : PF Alarm(-W)
14	PF- : PF Alarm ground(-W)

Connector	Mating connector	Terminal	Mfr.
CN3 S14B-PHDSS	PHDR-14VS	Chain:SPHD-002T-P0.5 Loose:BPHD-001T-P0.5 BPHD-002T-P0.5	J.S.T

※ 1 Ratchet Hand is nothing

※ Tolerance : ±1 [=0.04]

※ Weight : 1.5kg max

※ PCB material / thickness : FR-4 / 1.6mm [0.06]

※ Chassis and cover material : aluminium

※ Dimensions in mm, [] = inches

※ Mounting torque : 1.2N • m(12.8kgf • cm) max

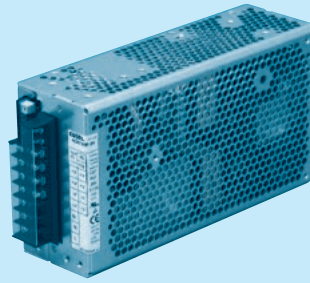
※ Screw tightening torque

M4 : 1.6N • m(16.3kgf • cm) max, M3 : 0.8N • m(8.5kgf • cm) max

※ I/O terminal for option-J and -T is shown in Instruction Manual 5.

ADA750F

① ADA ② 750 ③ F ④ -24 ⑤ -□



Example recommended EMI/EMC filter
NAC-20-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
* A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
 - ② Output wattage
 - ③ Universal input
 - ④ Output voltage
 - ⑤ Optional *7
 - G : Low leakage current
 - E : Low leakage current and EMI class A
 - F : with Fan unit
 - T : Vertical terminal block
 - J : Connector type
 - C : with Coating
 - R : Remote ON/OFF
 - N1: DIN rail
 - W: Alarms and Redundant operation
- Specification is changed at option, refer to Instruction Manual.

Please refer to derating curve, because the rated load current depends on cooling method that is convection cooling or forced air.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

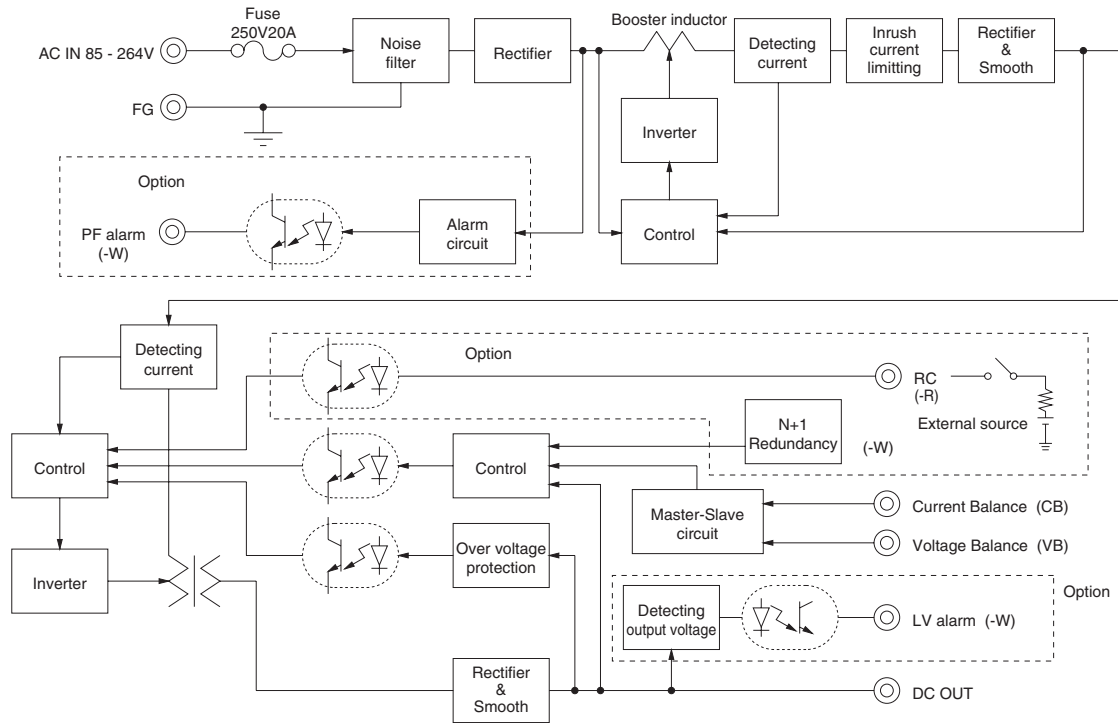
SPECIFICATIONS

	MODEL	ADA750F-24	ADA750F-30	ADA750F-36	ADA750F-48	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC 120 - 350 (AC64 or DC90 optionally available *6)				
	FREQUENCY[Hz]	50/60 (47 - 63) or DC				
	EFFICIENCY[%]	ACIN 100V	86typ (Io=100%)	86typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)
		ACIN 200V	88typ (Io=100%)	88typ (Io=100%)	89typ (Io=100%)	89typ (Io=100%)
	POWER FACTOR	ACIN 100V	0.99typ (Io=100%)			
		ACIN 200V	0.98typ (Io=100%)			
INRUSH CURRENT[A]	ACIN 100V *1	20typ (Io=100%) (More than 3sec.to re-start)				
	ACIN 200V *1	40typ (Io=100%) (More than 3sec.to re-start)				
LEAKAGE CURRENT[ma]		0.75max (60Hz, According to IEC60950 and DEN-AN) (Io=100%)				
OUTPUT	VOLTAGE[V]	24	30	36	48	
	CURRENT[A]	ACIN 100V *2	17 (Peak 42) convection	13.5 (Peak 33.5) convection	11 (Peak 28) convection	8 (Peak 21) convection
		ACIN 100V *2	25 (Peak 42) forced air	20 (Peak 33.5) forced air	16.5 (Peak 28) forced air	12.5 (Peak 21) forced air
		ACIN 200V *2	19 (Peak 63) convection	15 (Peak 50) convection	12.5 (Peak 42) convection	9 (Peak 31.5) convection
		ACIN 200V *2	31.5 (Peak 63) forced air	24.5 (Peak 50) forced air	20.5 (Peak 42) forced air	15.5 (Peak 31.5) forced air
LINE REGULATION[mV]	96max					
LOAD REGULATION[mV]	150max					
RIPPLE[mVp-p]	0 to +50°C *3	120max	160max	200max	200max	
	-10 - 0°C *3	160max	230max	260max	300max	
	0 to +50°C *3	150max	190max	230max	250max	
	-10 - 0°C *3	180max	250max	280max	400max	
TEMPERATURE REGULATION[mV]	0 to +50°C	240max	300max	360max	480max	
DRIFT[mV]	*4	96max	120max	144max	192max	
START-UP TIME[ms]	500max (ACIN 100V, Io=100%)					
HOLD-UP TIME[ms]	20typ (ACIN 100V, Io=100%)					
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	21.6 - 27.0	27.0 - 33.0	33.0 - 41.0	41.0 - 52.8		
OUTPUT VOLTAGE SETTING[V]	23.5 - 24.5	29.0 - 31.0	35.0 - 37.0	47.0 - 49.0		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 101% of peak current and recovers automatically				
	OVERVOLTAGE PROTECTION[V]	31 - 34.5	40 - 48	51 - 60	64 - 76	
	OPERATING INDICATION	LED (Green)				
	ALARM OUTPUT	Detecting low input voltage(PF), detecting low output voltage(LV). (Optional : -W, refer to Instruction Manual 5)				
	REMOTE ON/OFF(RC)	Requirement for external source (Option : -R, refer to Instruction Manual 5)				
ISOLATION	INPUT-OUTPUT · RC	*5 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	*5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +71°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 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				
SAFETY AND NOISE REGULATIONS	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis				
	AGENCY APPROVALS	UL60950-1, C-UL(CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)				
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 *8				
OTHERS	CASE SIZE/WEIGHT	70 x 127 x 230mm [2.76 x 5 x 9.06 inches] (W x H x D) (without terminal block) /1.9kg max				
	COOLING METHOD	Convection/Forced air				

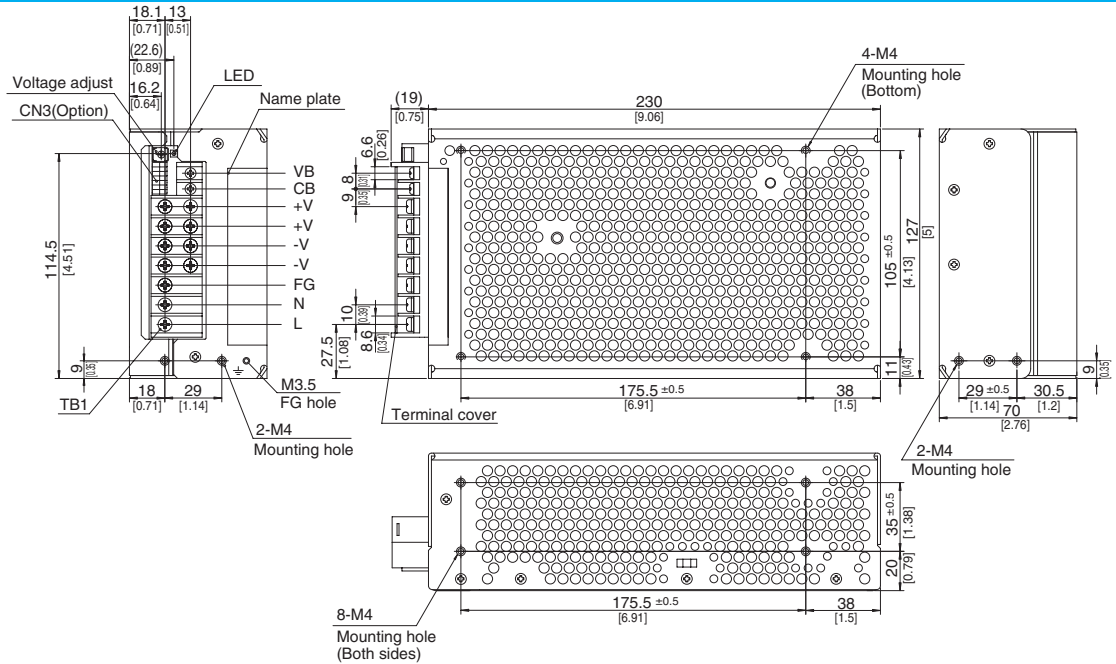
*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter (0.2ms or less) is excluded.
 *2 Peak loading for 10sec. And Duty 35% max. Refer to Instruction Manual 4. Forced air is shown in Instruction Manual 2.3.
 *3 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *5 Applicable when remote control (optional) is added.
 *6 Derating is required. Consult us for details.
 *7 Please contact us about safety approvals for the model with option.
 *8 Please contact us about class C.
 * A sound may occur from power supply at pulse loading.

Block diagram



External view



※ Pin assign

Symbol	Function	Screw type
VB	Voltage balance	M3
CB	Current balance	
+V	Output terminal(+)	M4
-V	Output terminal(-)	
FG	Frame ground	
N	AC(N)	
L	AC(L)	

Average 21A max per pin for TB1

- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 1.9kg max
- ※ PCB material / thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis and cover material : aluminium
- ※ Dimensions in mm, [] = inches
- ※ Mounting torque : 1.2N • m (12.8kgf • cm) max
- ※ Screw tightening torque
- ※ M4 : 1.6N • m (16.9kgf • cm) max, M3 : 0.8N • m (8.5kgf • cm) max
- ※ I/O terminal for option-J and -T is shown in Instruction Manual 5.

CN3(Optional)

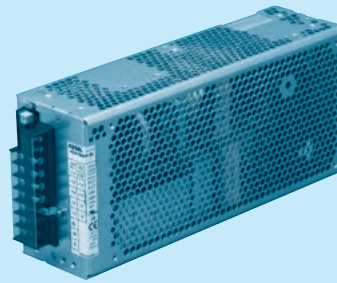
Pin No.	Function
1	RC+ : Remote ON/OFF+(-R)
2	RC- : Remote ON/OFF(-R)
3-8	NC : N.C.
9	LV+ : LV Alarm(-W)
10	LV- : LV Alarm ground(-W)
11-12	NC : N.C.
13	PF+ : PF Alarm(-W)
14	PF- : PF Alarm ground(-W)

Connector	Mating connector	Terminal	Mfr.	
CN3	S14B-PHDS5	PHDR-14VS	Chain:SPHD-002T-P0.5 Loose:BPHD-001T-P0.5 BPHD-002T-P0.5 **	J.S.T

※ 1 Ratchet Hand is nothing

ADA1000F

① ADA 1000 ② F ③ -24 ④ - ⑤ □



Example recommended EMI/EMC filter
NAC-20-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
* A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

- ① Series name
 - ② Output wattage
 - ③ Universal input
 - ④ Output voltage
 - ⑤ Optional *7
 - G : Low leakage current
 - E : Low leakage current and EMI class A
 - F : with Fan unit
 - T : Vertical terminal block
 - J : Connector type
 - C : with Coating
 - R : Remote ON/OFF
 - N1: DIN rail
 - W: Alarms and Redundant operation
- Specification is changed at option, refer to Instruction Manual.

Please refer to derating curve, because the rated load current depends on cooling method that is convection cooling or forced air.

*Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

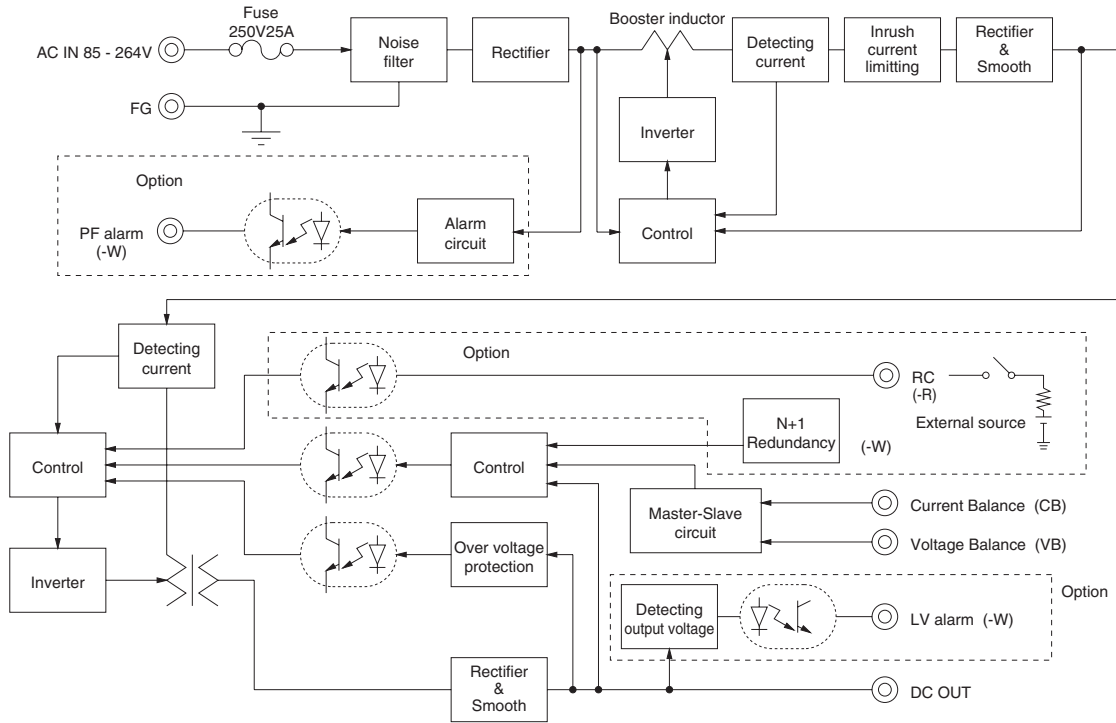
SPECIFICATIONS

	MODEL	ADA1000F-24	ADA1000F-30	ADA1000F-36	ADA1000F-48	
INPUT	VOLTAGE[V]	AC85 - 264 1 φ or DC 120 - 350 (AC64 or DC90 optionally available *6)				
	FREQUENCY[Hz]	50/60 (47 - 63) or DC				
	EFFICIENCY[%]	ACIN 100V	86typ (Io=100%)	86typ (Io=100%)	87typ (Io=100%)	87typ (Io=100%)
		ACIN 200V	88typ (Io=100%)	88typ (Io=100%)	89typ (Io=100%)	89typ (Io=100%)
	POWER FACTOR	ACIN 100V	0.99typ (Io=100%)			
		ACIN 200V	0.98typ (Io=100%)			
INRUSH CURRENT[A]	ACIN 100V *1	20typ (Io=100%) (More than 3sec.to re-start)				
	ACIN 200V *1	40typ (Io=100%) (More than 3sec.to re-start)				
LEAKAGE CURRENT[ma]		0.75max (60Hz, According to IEC60950 and DEN-AN) (Io=100%)				
OUTPUT	VOLTAGE[V]	24	30	36	48	
	CURRENT[A]	ACIN 100V *2	21 (Peak 63) convection	16.5 (Peak 50) convection	14 (Peak 42) convection	10.5 (Peak 31.5) convection
		ACIN 100V *2	33 (Peak 63) forced air	26 (Peak 50) forced air	22 (Peak 42) forced air	16.5 (Peak 31.5) forced air
		ACIN 200V *2	25 (Peak 83) convection	20 (Peak 66) convection	16.5 (Peak 55) convection	11.5 (Peak 41.5) convection
		ACIN 200V *2	42 (Peak 83) forced air	33.5 (Peak 66) forced air	28 (Peak 55) forced air	21 (Peak 41.5) forced air
LINE REGULATION[mV]	96max	120max	144max	192max		
LOAD REGULATION[mV]	150max	180max	240max	300max		
RIPPLE[mVp-p]	0 to +50°C *3	120max	160max	200max	200max	
	-10 - 0°C *3	160max	230max	260max	300max	
RIPPLE NOISE[mVp-p]	0 to +50°C *3	150max	190max	230max	250max	
	-10 - 0°C *3	180max	250max	280max	400max	
TEMPERATURE REGULATION[mV]	0 to +50°C	240max	300max	360max	480max	
DRIFT[mV]	*4	96max	120max	144max	192max	
START-UP TIME[ms]		500max (ACIN 100V, Io=100%)				
HOLD-UP TIME[ms]		20typ (ACIN 100V, Io=100%)				
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		21.6 - 27.0	27.0 - 33.0	33.0 - 41.0	41.0 - 52.8	
OUTPUT VOLTAGE SETTING[V]		23.5 - 24.5	29.0 - 31.0	35.0 - 37.0	47 - 49	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 101% of peak current and recovers automatically				
	OVERVOLTAGE PROTECTION[V]	31 - 34.5	40 - 48	51 - 60	64 - 76	
	OPERATING INDICATION	LED (Green)				
	ALARM OUTPUT	Detecting low input voltage(PF), detecting low output voltage(LV). (Optional : -W, refer to Instruction Manual 5)				
REMOTE ON/OFF(RC)	Requirement for external source (Option : -R, refer to Instruction Manual 5)					
ISOLATION	INPUT-OUTPUT · RC	*5 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	*5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)				
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +71°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 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				
SAFETY AND NOISE REGULATIONS	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis				
	AGENCY APPROVALS	UL60950-1, C-UL(CSA60950-1), EN60950-1, EN60065, EN50178 Complies with DEN-AN and IEC60950-1 (At only AC input)				
	CONDUCTED NOISE	Complies with FCC-B, CISPR22-B, EN55022-B, VCCI-B				
OTHERS	HARMONIC ATTENUATOR	Complies with IEC61000-3-2 *8				
	CASE SIZE/WEIGHT	75 x 127 x 280mm [2.95 x 5 x 11.02 inches] (W x H x D) (without terminal block) /2.5kg max				
	COOLING METHOD	Convection/Forced air				

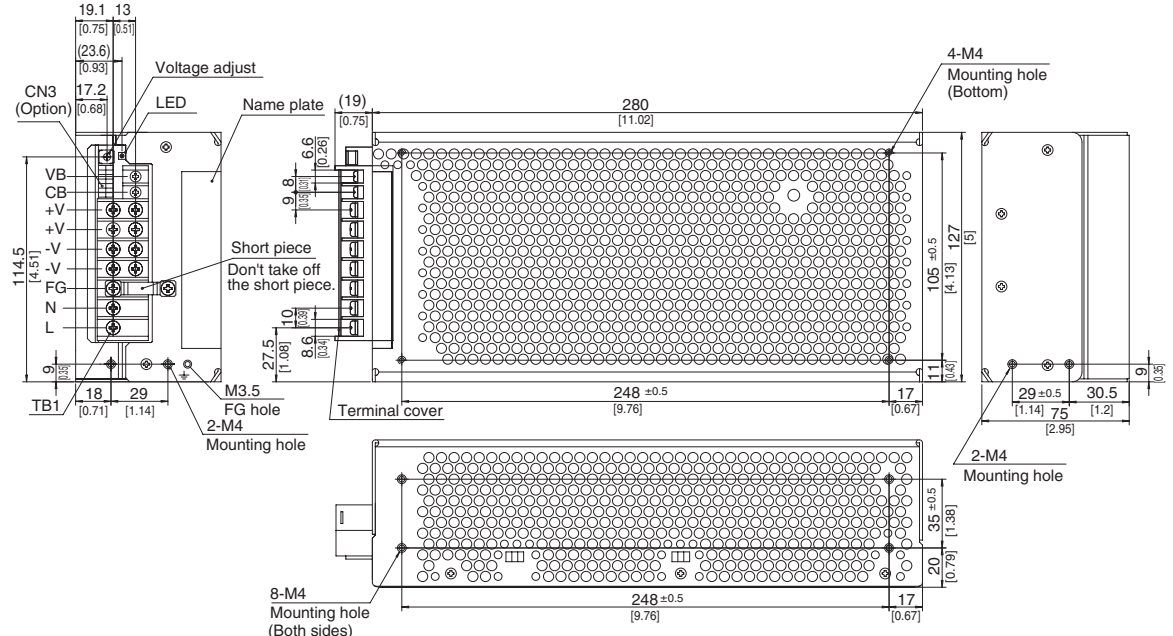
*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter (0.2ms or less) is excluded.
 *2 Peak loading for 10sec. And Duty 35% max. Refer to Instruction Manual 4. Forced air is shown in Instruction Manual 2.3.
 *3 This is the value that measured on measuring board with capacitor of 22 μF within 150mm from output terminal. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN: RM101).

*4 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *5 Applicable when remote control (optional) is added.
 *6 Derating is required. Consult us for details.
 *7 Please contact us about safety approvals for the model with option.
 *8 Please contact us about class C.
 * A sound may occur from power supply at pulse loading.

Block diagram



External view



※ Pin assign

Symbol	Function	Screw type
VB	Voltage balance	M3
CB	Current balance	
+V	Output terminal(+)	M4
+V	Output terminal(+)	
-V	Output terminal(-)	
-V	Output terminal(-)	
FG	Frame ground	
N	AC(N)	
L	AC(L)	

Average 21A max per pin for TB1

- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 2.5kg max
- ※ PCB material / thickness : FR-4 / 1.6mm [0.06]
- ※ Chassis and cover material : aluminium
- ※ Dimensions in mm, [] = inches
- ※ Mounting torque : 1.2N · m(12.8kgf · cm) max
- ※ Screw tightening torque
- ※ M4 : 1.6N · m(16.9kgf · cm) max, M3 : 0.8N · m(8.5kgf · cm) max
- ※ I/O terminal for option-J and -T is shown in Instruction Manual 5.

CN3(Optional)

Pin No.	Function
1	RC+ : Remote ON/OFF+(+R)
2	RC- : Remote ON/OFF(-R)
3-8	NC : N.C.
9	LV+ : LV Alarm(-W)
10	LV- : LV Alarm ground(-W)
11-12	NC : N.C.
13	PF+ : PF Alarm(-W)
14	PF- : PF Alarm ground(-W)

Connector	Mating connector	Terminal	Mfr.
CN3	S14B-PHDSS	PHDR-14VS	Chain:SPHD-002T-P0.5 Loose:BPHD-001T-P0.5 BPHD-002T-P0.5*
			J.S.T

* 1 Ratchet Hand is nothing