



# ADA600F

**ADA 600 F -24 -□**

① ② ③ ④ ⑤



**RoHS**



**Recommended EMI/EMC Filter  
NAC-20-472**



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 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.

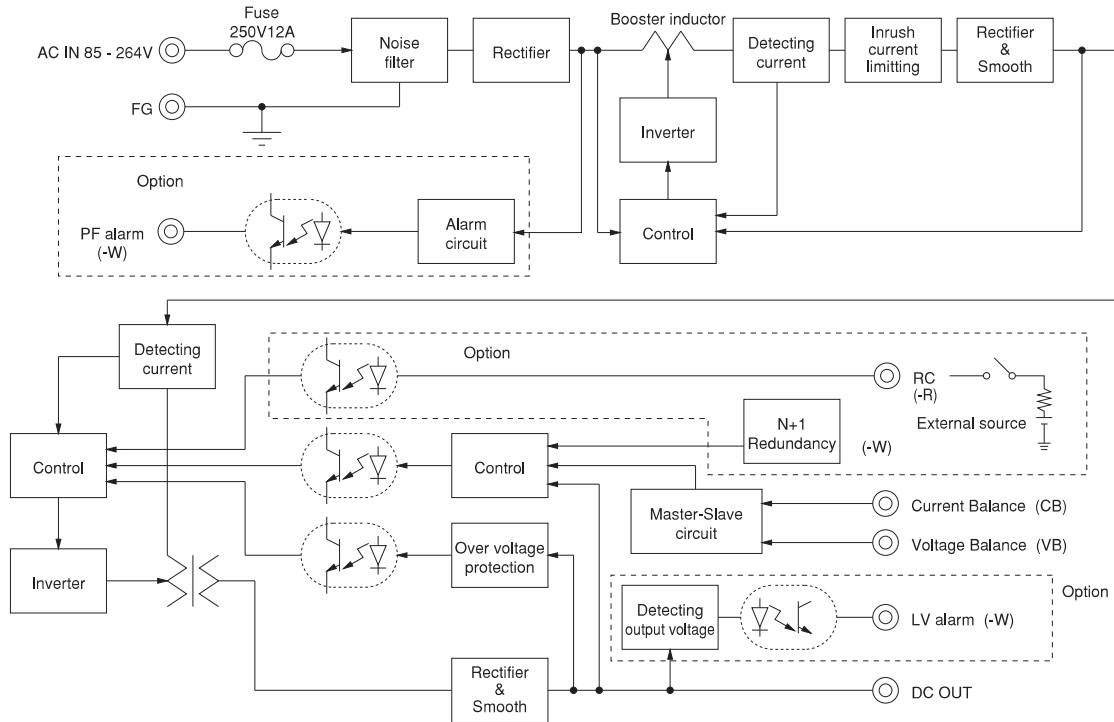
## SPECIFICATIONS

	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)				
ISOLATION	REMOTE ON/OFF(RC)	Requirement for external source (Option : -R, refer to Instruction Manual 5)				
	INPUT-OUTPUT · RC	*5	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)			
	INPUT-FG	*5	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)			
ENVIRONMENT	OUTPUT · RC-FG	*5	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)			
	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 <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis				
SAFETY AND NOISE REGULATIONS	IMPACT	196.1m/s <sup>2</sup> (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				

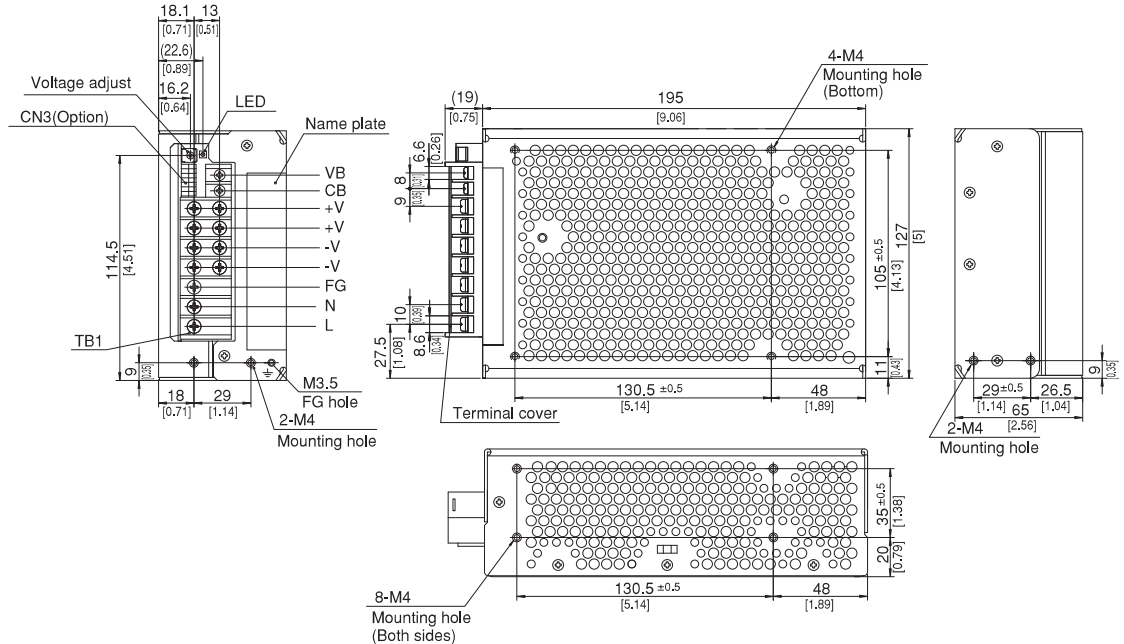
\*1 The value is primary surge. The current of input surge to a built-in EMI/EMC Filter (0.2ms or less) is excluded.  
\*2 Peak loading for 10sec. And Duty 35% max. Refer to Instruction Manual 4. Forced air is shown in Instruction Manual 2.3.  
\*3 This is the value that measured on measuring board with 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

- ※ 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 [16.9kgf · 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