

# ACE-828/830

## Industrial ATX Power Supply



- **Output Power** : Total combined output power on the +3.3V and +5V rails is 150W
- **Efficiency** : Higher than 65%
- **Hold-up Time (ACE-828A/830AP)** : 20ms (typical)@115V AC
- **Altitude** : 0 ~ 10,000ft
- **Protection** :
  - Over voltage protection : The trip point is around 5.7V ~ 7.0V output
  - Short circuit protection
- **Vibration** : 10 ~ 55Hz at 2G 3min. period, 30 min. along X, Y and Z axis
- **Impact** : 10G for 20ms once on each X, Y and Z axis
- **MTBF** :
  - ACE-828A : 101,379 Hours
  - ACE-828C : 121,233 Hours
  - ACE-828T : 112,112 Hours
- **Safety** : Meets UL 1950; CSA 22.2 No. 234, VDE EN 60 950
- **EMI** :
  - Meets FCC class "B", EN55022 class "B"
  - Harmonic EN 61000-3-2 for ACE-830AP
- **EMS Standard (Design to meet the following limits)** :
  - IEC 801-2 8KV (Air Discharge)
  - IEC 801-3, 3V/M criteria A
  - IEC 801-4, 2KV criteria B
  - IEC 801-5, 2KV criteria B
- **Operating Temperature** : -20° ~ 70°C (Derating curve will occur 40°~ 70°C)
- **Storage Temperature** : -40° ~ 75°C

### Specifications

#### ● Input Table :

Model	Input Range	Input Current
ACE-828A/830AP	90 ~ 130V AC or 180 ~ 260V AC, 47 ~ 63Hz (Auto-Switch)	
ACE-828C	+18 ~ +32V DC	5A@24V DC
ACE-828T	-40 ~ -72V DC	10A@-48V DC

#### ● Output Table : (at 40°C)

Model	Rated Load						Max Output					
	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>
ACE-830AP	30A	6A	0.5A	0.5A	10A	1A	35A	10A	1A	1A	20A	1.5A
ACE-828A	25A	10A	0.5A	0.5A	8A	0.72A	30A	15A	2A	1A	15A	1.2A
ACE-828C	25A	7A	1A	0.5A	8A	0.72A	30A	15A	2A	1A	15A	1.2A
ACE-828T	25A	7A	1A	0.5A	8A	0.72A	30A	15A	2A	1A	15A	1.2A

- **Ripple and Noise** : Less than 50mV@+5V and +3.3V; 100mV@Others
- **Line Regulation** : The line regulation for each outputs are less than ±1%
- **Load Regulation** :

Model	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>
ACE-830AP	<±1%	<±1%	<±1%	<±1%	<±1%	<±1%
ACE-828A	<±3%	<±5%	<±2%	<±2%	<±2%	<±3%
ACE-828C	<±3%	<±5%	<±2%	<±2%	<±2%	<±1%
ACE-828T	<±3%	<±5%	<±2%	<±2%	<±2%	<±1%

### Ordering Information:

#### ACE-830AP

AC input PFC 300W industrial ATX power supply

#### ACE-828A

AC input 280W industrial ATX power supply

#### ACE-828C

+24V DC input industrial ATX power supply

#### ACE-828T

-48V DC input industrial ATX power supply

# ACE-832A/832AP 300W ATX Power Supply

# ACE-828M/925M Medical Power Supply



ACE-832A



ACE-832AP-S



## Specifications

- Input : 90V-264VAC (ACE-832AP)  
95V-132VAC, 180-264VAC auto-range (ACE-832A)
- ACE-832A/832AP Output Rating

Output	Nominal	Regulation	Ripple/Noise	Min.	Max.
1	+3.3V	+/-5%	50mV	0.3A	28A
2	+5V	+/-5%	50mV	0.1A	30A
3	+12V	+/-5%	120mV	0.1A	15A
4	-5V	+/-5%	100mV	0A	0.3A
5	-12V	+/-5%	120mV	0A	0.8A
6	+5VSB	+/-5%	100mV	0A	2.0A

Total Output of +3.3V and +5V shall not exceed 150W. +3.3V, +5V, and +12V total output power max. is 280W.

- Hold-up time : 17ms min.
- Efficiency : 65% typ.
- Protection : Over Voltage/Load Protection and Short Circuit Protection
- TTL signal compatible power good signal
- Vibration : 10-55Hz at 2G 3min. period, 30 min. along X, Y and Z axis.
- Shock : 10G for 11ms once on each X, Y and Z axis.
- MTBF : min. 50,000hrs at 25°C
- Safety : Meets UL 1950, CSA 22.2 Level 3, TUV or VDE, NEMKO, CE
- EMI : Meets FCC class "B", EN55022 class "B"  
Meets Harmonic EN61000-3-2 (ACE-832AP)
- EMS Standard : meet
  - IEC 801-2 8KV(Air Discharge)
  - IEC 801-3 3V/M criteria A
  - IEC 801-4, 2KV criteria B
  - IEC 801-5, 2KV criteria B
- Operating Temp. : 0-50°C

## Ordering Information:

ACE-832A 300W ATX Power Supply  
ACE-832AP 300W ATX Power Supply with PFC function  
ACE-832AP-S 300W ATX Power Supply with PFC function & on/off switch



ACE-828M



ACE-925M



## Specifications

- Input Voltage :  
ACE-828M: 90-130VAC or 180-260VAC(Auto Switch)  
ACE-925M: 90-264VAC (Full-Range)
- Output Table : (at 40°C)

Model	Rated Load						Max Output					
	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>
ACE-828M	25A	10A	0.5A	0.5A	8A	0.72A	30A	15A	1A	1A	15A	1.2A
ACE-925M	22A	7A	0.5A	0.5A			28A	10A	1A	1A		

- Leakage Current : Primary to safety ground less 500uA at 253V AC input, secondary ground to safety ground less than 100uA at 235AV AC input
- Ripple and Noise :
  - ACE-828M : Less than 50mV@+5V and +3.3V; 100mV@Others
  - ACE-925M : The line regulation for each outputs are less than ±1%
- Line Regulation :
  - ACE-925M : Less than ±1 for each output
  - ACE-828M : Less than ±2%@+12V, ±1%@Others
- Load Regulation :
 

Model	+5V	+12V	-12V	-5V	+3.3V	+5Vs <sub>b</sub>
ACE-828M	<±3%	<±5%	<±2%	<±2%	<±2%	<±3%
ACE-925M	<±3%	<±5%	<±5%	<±5%		
- Output Power : Total combined output power on the +3.3V and +5V rails is 150W for ACE-828M
- Efficiency : Higher than 65%
- Altitude : 0 ~ 10,000ft
- Over voltage protection
- Vibration :
  - 10 ~ 55Hz at 2G 3min. period, 30 min. along X, Y and Z axis
- Impact : 10G for 20ms once on each X, Y and Z axis
- MTBF : - ACE-828M : 177,287 Hours  
- ACE-925M : 132,648 Hours
- Safety : Meets UL 544, UL 2601, CSA 22.2 No.601, TUV (DIN : VDE 075T.1/12.91/EN 60 601-1:1990)
- EMI : Meets EN55011 class "B"
- EMS Standard (Design to meet the following limits) :
  - IEC 801-2 4KV contact, 8KV Air Discharge
  - IEC 801-3, 3V/M, 26MHz to 1GHz
  - IEC 801-4, 2KV power mains
  - IEC 801-5, 2KV criteria B
- Operating Temperature :
  - ACE-828M : -20° ~ 70°C(Derating curve will occur 40° ~ 70°C)
  - ACE-925M : 0° ~ 70°C(Derating curve will occur 40° ~ 70°C)
- Storage Temperature : -40° ~ 75°C

## Ordering Information:

ACE-828M Medical ATX 280W power supply  
ACE-925M Medical PS/2 type 250W power supply

# ACE-840A/AP ACE-830APU1

400W PS/2 Type ATX Power Supply  
300W ATX Power Supply

## For P4 System

**PFC**

**NEW**



ACE-840AP

**NEW**



ACE-840A

**PFC**

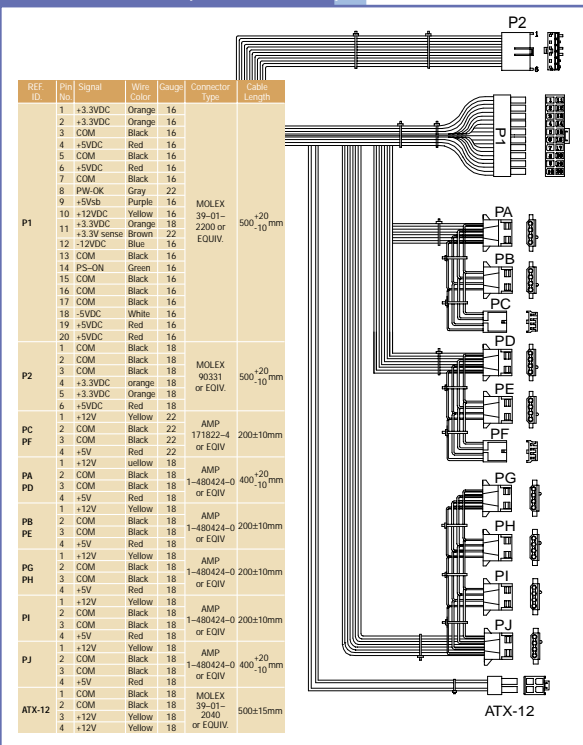
**Design For  
1U Server**

**NEW**

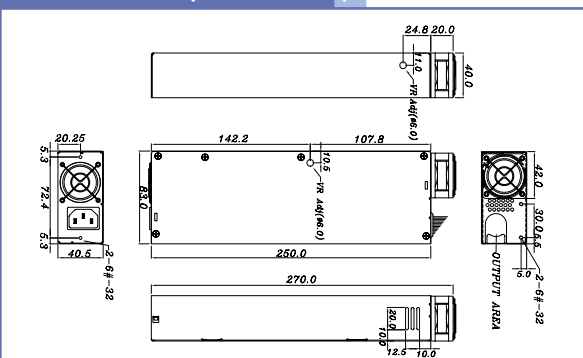


ACE-830APU1

**Power  
Connectors (ACE-840A/AP)**



**Dimensions (ACE-830APU1)**



## SPECIFICATIONS



- Input :** 95~264VAC Full range (ACE-840AP)  
95V~132VAC, 180~264VAC Switch (ACE-840A)  
90V ~ 264VAC Full range (ACE-830APU1)

**Output Rating**

**ACE-840AP/ACE-840A**

**ACE-830APU1**

Nominal	Regulation	Ripple/ Noise	Min.	Max.	Nominal	Regulation	Ripple/ Noise	Min. Load	Max. Load	Peak Load
+3.3V	+/-5%	50mV	0.3A	28A	+3.3V	+/-5%	50mV	0	20A	25A
+5V	+/-5%	50mV	0.1A	40A	+5V	+5/-4%	50mV	0.5A	28A	40A
+12V	+/-5%	120mV	0A	15A	+12V	+/-5%	120mV	0.5A	16A	20A
-5V	+/-5%	100mV	0A	0.3A	-5V	+/-5%	50mV	0	0.5A	
-12V	+/-5%	100mV	0A	0.8A	-12V	+8/-5%	120mV	0	1A	
+5Vsb	+/-5%	50mV	0A	2A	+5Vsb	+/-5%	50mV	0	2A	

Total Output of +3.3V and +5V shall not exceed 235W. +3.3V, +5V, and +12V total output power max. is 380W.

The output of +3.3V and +5V shall not exceed 140W. Total output maximum 300W.

- Hold-up time :** 17ms min. (ACE-840A/AP) / 20ms min. (ACE-830APU1)
- Efficiency :** 65% typ. (ACE-840A/AP) / 70% typ. (ACE-830APU1)
- Protection :** Over Voltage/Load Protection and short circuit protection .
- TTL signal compatible power good signal .**
- Vibration :** 10-55Hz at 2G 3min. period, 30min. along X, Y and Z axis .
- Shock :** 10G for 11ms once on each X, Y and Z axis.
- M.T.B.F. :** Minimum 100000 hours at 25°C (ACE-840A/AP)  
Minimum 120000 hours at 25°C (ACE-830APU1)
- Safety :**  
Meets UL 1950, CSA 22.2 level 3, VDE EN 60950, NEMKO, CE . (ACE-840A/AP)  
Meets UL 60950 3rd, CSA C22.2 level 3, TUV EN 60950, IEC 60950, EMKO-TSE (74-SEC) 207/94 (ACE-830APU1)
- EMI :**  
Meets FCC class "B", EN55022 class "B" Meets Harmonic EN 61000-3-2 (ACE-840AP)  
Meet FCC Class B, EN 55022 Class B, EN 61000-3-2 Class D, CNS 13438 CLASS B (ACE-830APU1)
- EMS :**  
IEC 801-2-8KV (Air Discharge), IEC 801-3-3V/M criteria A, IEC 801-4,2KV criteria B, IEC 801-5,2KV criteria B (ACE-840A/AP)  
Meet EN 50082-1 immunity standard, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11(ACE-830APU1)
- Operating temp :** 0~50°C (ACE-840A/AP) / 0~70°C (ACE-830AUP1)

## ORDERING INFORMATION

- ACE-840A** 400W ATX Power supply
- ACE-840AP** 400W ATX Power Supply with PFC function
- ACE-830APU1** 300W ATX Power Supply with PFC function

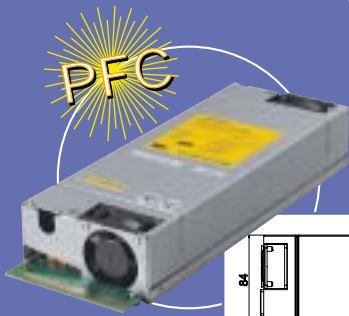
Note: ACE-830APU1 design for EC-1017 series, contact us for other 1U chassis

# ACE-1010T ACE-1010A/1020A

170W 48VDC Input ATX Power Supply

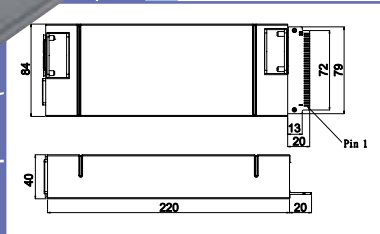
170W/300W ATX Power Supply

The best removable power supply designed for 1U/2U servers !!



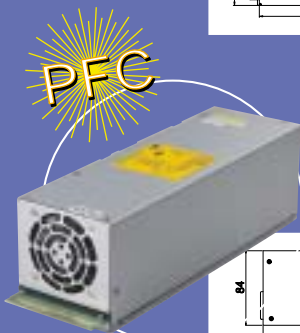
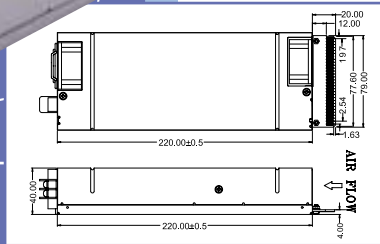
ACE-1010A

### Dimensions



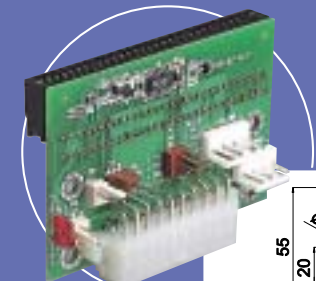
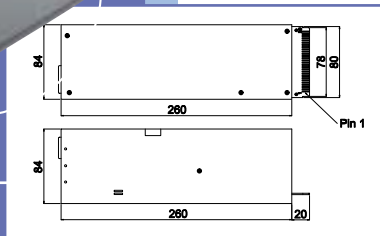
ACE-1010T

### Dimensions



ACE-1020A

### Dimensions



PCB-02

## SPECIFICATIONS

- Input : 90V-264VAC (ACE-1010A/1020A), 36V-72VDC (ACE-1010T)
- ACE-1010A, 1010T Output Rating \* ACE-1010T 50mV

Output	Nominal	Regulation	Ripple/Noise	Min.	Max.
1	+3.3V	+/-5%	50mV	0.3A	12.0A
2	+5V	+/-5%	50mV	1.5A	16.0A
3	+12V	+/-5%	120mV	0.1A	5.0A
4	-5V	+/-5%	100mV	0A	0.3A
5	-12V	+/-5%	120mV	0A	0.8A
6	+5VSB	+/-5%	100mV*	0A	2.0A

Total Output of +3.3V and +5V shall not exceed 100W, the power supply's max. output power is 170W

### ACE-1020A Output Rating

Output	Nominal	Regulation	Ripple/Noise	Min.	Max.
1	+3.3V	+/-5%	50mV	0.3A	20.0A
2	+5V	+/-5%	50mV	2.0A	25.0A
3	+12V	+/-5%	120mV	0.2A	11.0A
4	-5V	+/-5%	100mV	0A	0.3A
5	-12V	+/-5%	120mV	0A	0.8A
6	+5VSB	+/-5%	100mV	0A	2.0A

Total Output of +3.3V and +5V shall not exceed 145W, the +3.3V, +5V and +12V total output power shall not exceed 250W and the total output of the power supply is max. 300W.

- Hold-up time : 17ms min. (ACE-1010A/1020A)
- Efficiency : 68% typ.
- Protection : Over Voltage Protection and Short Circuit Protection
- TTL signal compatible power good signal
- Vibration : 10-55Hz at 2G 3min. period, 30 min. along X, Y and Z axis.
- Shock : 10G for 11ms once on each X, Y and Z axis.
- MTBF : min. 50,000hrs
- Safety : Meets UL 1950, CSA 22.2 Level 3, TUV or VDE, NEMKO, CE
- EMI : Meets FCC class "B", EN55022 class "B"  
Meets Harmonic EN61000-3-2 (ACE-1010A, 1020A)
- EMS Standard : meet
  - IEC 801-2, 8KV(Air Discharge)
  - IEC 801-3, 3V/M criteria A
  - IEC 801-4, 2KV criteria B
  - IEC 801-5, 2KV criteria B
- Operating Temp. : 0-50°C



## PCB-02 ACE-1010A/1010T/1020A Power Connection Board

- Work with ACE-1010A/1010T/1020A ATX power supply
- Emulate ATX push button function to control power on/off.
- Standard ATX power connector and accessory device 5V/12V connectors.

## ORDERING INFORMATION

- ACE-1010T : 170W 48VDC Input in ATX Power Supply
- ACE-1010A : 170W ATX Power Supply
- ACE-1020A : 300W ATX Power Supply
- PCB-02 : ACE-1010A/1010T/1020A Power Connection Board

# ACE-R30A/R30AP230V

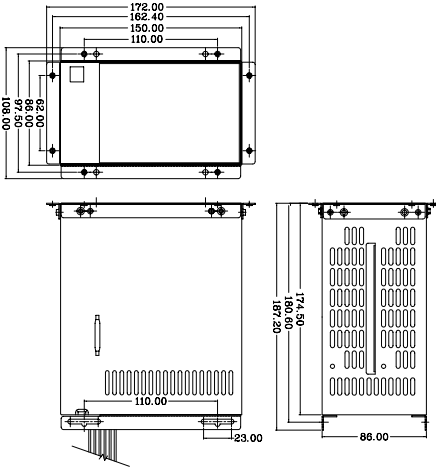
## 300W ATX Redundant Power Supply

PFC Version available



ACE-R30A

ACE-R30A-1



### SPECIFICATIONS

- **Input :** 90-132V or 180-264VAC switch select (ACE-R30A)  
180-264VAC (ACE-R30AP230V)
- **Output Rating :**

Output	Nominal	Regulation	Ripple/Noise	Min.	Max.
1	+3.3V	+/-5%	100mV	0.5A	15A
2	+5V	+/-5%	100mV	2.5A	35A
3	+12V	+/-5%	200mV	0.5A	15A
4	-5V	+/-5%	200mV	0A	0.5A
5	-12V	+/-10%	240mV	0A	0.8A
6	+5VSB	+/-5%	100mV	0A	1.5A

Total Output of +3.3V and +5V shall not exceed 175W, the power supply's max. output power is 300W.

- **Hold-up time :** 16ms min.
- **Efficiency :** 70% typ.
- **Protection :** Over Voltage/Temp. Protection and Short Circuit Protection
- **TTL signal compatible power good signal**
- **Vibration :** 10-55Hz at 2G 3min. period, 30 min. along X, Y and Z axis.
- **Shock :** 10G for 11ms once on each X, Y and Z axis.



- **MTBF :** min. 50,000hrs
- **Safety :** Meets UL 1950, CSA 22.2 Level 3, TUV, CE
- **EMI :** Meets FCC class "B", EN55022 class "B", CE
- **Operating Temp. :** 0-50°C

### ORDERING INFORMATION

- **ACE-R30A** 300W ATX Redundant Power Supply  
Includes two ACE-R30A
- **ACE-R30A-1** 300W ATX Redundant Power Module
- **ACE-R30AP230V** 300W/230VAC input ATX Redundant Power with PFC function Includes two ACE-R30AP230V-1
- **ACE-R30AP230V-1** 300W/230VAC input ATX Redundant Power Module with PFC function

# ACE-C232 PS/2 Size 230W Redundant Power Supply



- **Ripple and Noise:** The peak to peak ripple and noise for +5V output is less than 50mV, for +/-12V and -5V output is less than 100mV.
- **Line Regulation:** The line regulation for each output is less +/-1% while measuring at rated load and +/-10% or 115VAC or 230VAC input voltage changing.
- **Load Regulation:** The output voltage load regulation is less than the following value by changing each output and +/-40% from 60% rated load, and keep all other outputs at 60% rated load.  
+5V: +/-4% +12V: +/-5% -12V: +/-2% -5V: +/-2%
- **Hold Up Time:** >16ms
- **Power Good Signal:** Go high 100ms to 500ms after all output DC Voltages are within regulation limits.
- **Efficiency:** 70% typical
- **Output protection:** Over Voltage Protection and Short Protection
- **Operating Temperature :** 0°C ~ 50°C (derating about 20% from 30°C to 50°C)
- **Storage Temperature :** -40° ~ 85°C
- **Cooling:** Cooling with a 42CFM forced air
- **MTBF:** 176,530Hrs
- **Safety Standards:** UL 1950; CSA22.2 No. 234; EN 60950
- **EMI Standard:** ECC docket 20780 curve "B" ; EN55022 class "B"
- **Connectors:** DIN 41612 C96
- **Pin Assignment:**

Pin 1	AC L	Pin 11, 12, 13	+12V
4	AC N	11~25	GND
9	-5V	26~31	+5V
10	-12V	32	Power Good

### SPECIFICATIONS

#### Power Fault Warning:

In case one power module failed, the buzzer and LED will act. After pushing reset button, the buzzer stops and the LED still light until the failed power module is fixed.

#### ACE-R23A 230W Redundant Power Module

- **Input :** 90V to 130V AC or 180V to 260V AC selectable,
- **Output (Max. Output Power 230W at 30°C)**

Output	Min. Load	Rated Load	Max. Load	Voltage Accessory
+5V	4.0A	20A	25A	4.80V to 5.20V
+12V	1.0A	10A	12A	11.4V to 12.9V
-12V	0.1A	0.5A	1A	-11.30V to -12.60V
-5V	0.1A	0.5A	1A	-4.65V to -5.25V



### ORDERING INFORMATION

- **ACE-C232** PS/2 Size 230W Redundant Power Supply, includes two ACE-R23A
- **ACE-R23A** 230W Redundant Power Module