Product List

Model No.	Dimensions	Maximum Output Power	Input Voltage	Maximum Output Current						
				12V	5V	3.3V	-12V	5VSB	16V	20V
PM-P001	3.775 x 3.55"	100 W	8 ~ 36 V	2.5 A	12 A	-	0.5 A	1 A	-	-
PM-P002	3.775 x 3.55"	100 W	8 ~ 36 V	5 A	8 A	-	-	-	-	-
PM-P003	3.775 x 3.55"	65 W	8 ~ 36 V	5 A	13 A	-	-	-	-	-
PM-P004	3.775 x 3.55"	40 W	8 ~ 36 V	2.5 A	8 A	7 A	0.5 A	1 A	-	-
PM-P005	3.775 x 3.55"	60 W	8 ~ 36 V	5 A	12 A	10 A	-	1 A	-	-
PM-P006UPS	3.775 x 3.55"	65 W	6 ~ 36 V	4 A	10 A	8 A	-	1 A	-	-
IDD-936160	25 mm x 82 mm	60 W	9 ~ 36 V	5 A	-	-	-	-	-	-
IDD-936260A	40 mm x 100 mm	60 W	9 ~ 36 V	3 A	10 A	-	-	0.5 A	-	-
IDD-12250A	40 mm x 100 mm	50 W + 60 W	12 V	5 A	10 A	-	-	0.5 A	-	-
IDD-12490A	45 mm x 160 mm	90 W + 120 W	12 V	10 A	10 A	8 A	0.3 A	2 A	-	-
IDD-241100	40 mm x 100 mm	100 W	24 V	8.3 A	-	-	-	-	-	-
IDD-481100	40 mm x 100 mm	100 W	48 V	8.3 A	-	-	-	-	-	-
IDD-9364120A	45 mm x 160 mm	120 W	9 ~ 36 V	4 A	10 A	8 A	0.3 A	2 A	-	-
IDDV-6301100	45 mm x 160 mm	100W	6 ~ 30 V	8A	-	-	-	-	-	
IDDV-6304140A	45 mm x 160 mm	140 W	6 ~ 30 V	4 A	10 A	10 A	0.15 A	1.5 A	-	-
IDDUPS-6364120A	60 mm x 160 mm	120 W	6 ~ 36 V	4 A	10 A	8 A	0.3 A	2 A	-	-
IDDUPS-636260A	60 mm x 160 mm	60 W	6 ~ 36 V	3 A	10 A	-	-	0.5 A	-	-
IDDUPS-6301100	60 mm x 160 mm	100 W	6 ~ 30 V	8.3 A	-	-	-	-	-	-
IDDUPS-1228180	40 mm x 100 mm	80 W	12 ~ 28 V	-	-	-	-	-	-	4 A
IDD-930160-KIT	42 mm x 103 mm x 31 mm	60 W	9 ~ 30 V	5 A	-	-	-	-	-	-

Naming Conventions:

PM-P xxx yy

- Extra Featuress
- Model Number
- Power Modules
- PC/104 Form Factor

IDD xx - 630 4 120 A

- ATX On/Off Support
- Output Wattage
- Outputs Voltages Number
- Input Voltage Range
- Extra Featuress
- Industry DC to DC Converter

Output Power Caculation

P (Wattage) = V (Voltage) x I (Current)
Pt = Total Output Power
I1 = Current of Output Voltage1
In = Current of Output Voltagen
V1 = Output Voltage1
Vn = Output Voltagen
Pt = V1 x I1 + V2 x I2 + ... + Vn x In
Pt must be less than max. output power and individual output current must not exceed max. output current.

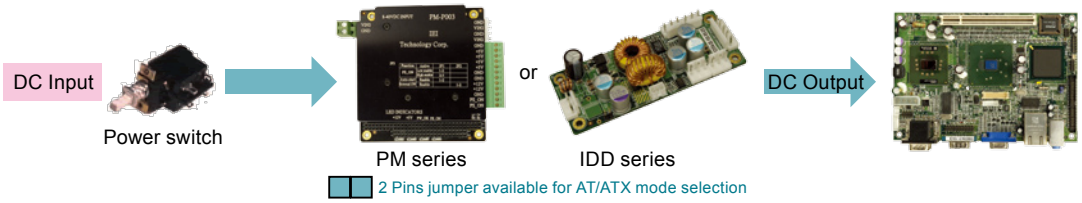
How to Configure the IDD & PM_P Series

AT Mode

1. Power supply without any control signal
2. Power is controlled directly by the power supply's on/off switch.

Installation

Step 1. Set the jumper on the power modules & SBC to AT mode (if there is any)



Step 2. Connect all input & output power cables

Step 3. Wire/Isolate DC input by power switch

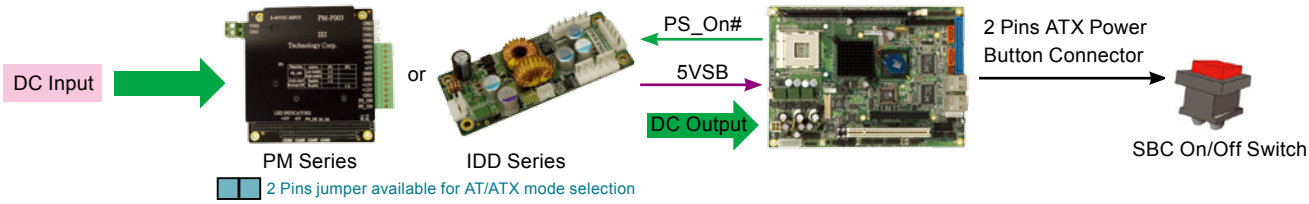
Step 4. Power up by switch

ATX Mode (Supports normal Windows® OS power down)

1. Required 5VSB (5V standby power) provide to SBC.
2. Power Supply On/Off control by “PS_On#” signal.
3. PS_On# is an active low signal that turns on all power rails.

Installation

Step 1. Set the jumper on the power modules & SBC to ATX mode (if there is any)



Step 2. Wiring 5VSB & PS_ON# from power module to SBC

Step 3. Wiring all input, output power cables

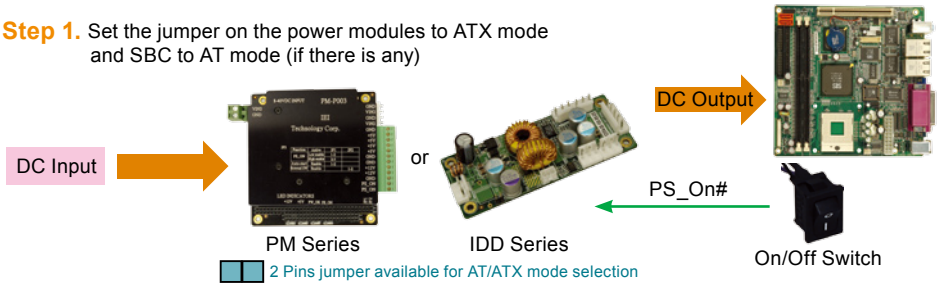
Step 4. Power up system by SBC On/Off switch

Simulated AT Mode

1. The 5 Volt standby power is not provided to the SBC.
2. Power supply power is controlled by the "PS_On#" signal.
3. The power switch is connected to the power supply.

Installation

Step 1. Set the jumper on the power modules to ATX mode and SBC to AT mode (if there is any)



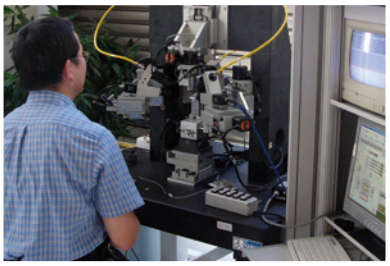
Step 2. Connect 5 VSB & PS_ON# from the power module to the SBC.

Step 3. Connect all input and output power cables.

Step 4. Power up the system using the power switch connected to the SBC.

ODM DC to DC Modules

IEI offers various compact, low profile and high efficiency DC-DC converters. In cases where requirements extend beyond IEI's standard products, custom solutions can be developed rapidly utilizing our innovative techniques and the latest in design-automation tools. This results in fully supported products being brought to market rapidly and cost-effectively.



Dedicated Engineering Team - Professional

Our dedicated team offers application-specific integrated solutions and will design a customized product that will put you out in front of the competition.

Our solutions include standard/non-standard voltages, isolated/non-isolated, any form factor, power sequencing, battery chargers, electromechanical interference protection, thermal management, remote on/off and I/O interface.

Advanced Test Equipment – Precision & Reliability

Timing/Noise Analyzer Chroma 6011

Electronic Load Chroma 6312 Series

Power Analyzer Chroma 6632

Qualification Process:
Electrical Performance Tests:

- Worst case and typical input/output
- Worst case and typical environmental conditions
- Regulation
- Efficiency
- Output Ripple and Noise

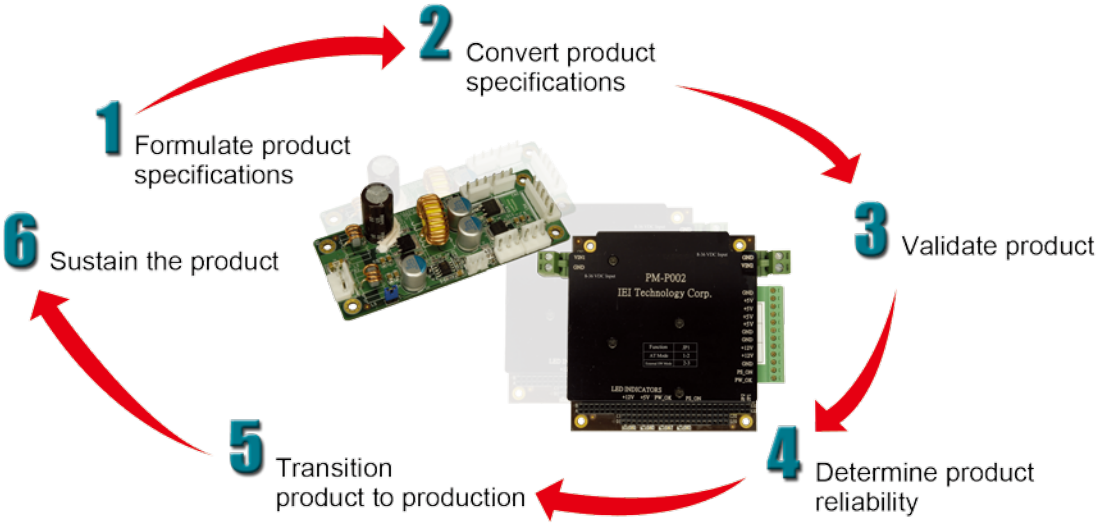
Reliability and Strife Tests:

- Temperature cycle
- MTBF
- Burn-in at maximum temperature and full load

Chroma 8000 Series
Power Supply Auto Test System

From Scratch to Sustain - Commitment

A partnership with IEI does not end at product shipment. We're beside you with ongoing product support as your products evolve and change to meet emerging market requirements.



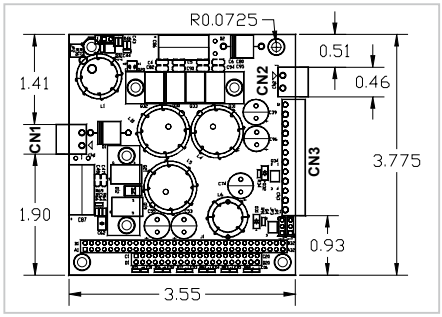
PM-P001

PC/104 100 W DC to DC Converter Module

Features

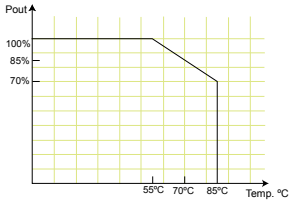
1. High efficiency up to 96%
2. Over voltage protection
3. Over current protection
4. Input power protection
5. Short circuit protection
6. Low quiescent current
7. Low EMI & RFI
8. RoHS compliant
9. Remote on/of
10. AT or ATX mode
11. Non-isolated type

Dimensions (Inches)



Specifications

- Output (max.): 5 V@12 A, 12 V@2.5 A, 5 VSB@1 A & -12 V@ 500 mA
  Max. total output: 100 W
- Input: 6 VDC to 36 VDC
- Performance characteristics
  Line regulation: <40 mV*
  Load regulation: <150 mV
  Efficiency: up to 95%
  Quiescent current: <1 mA**
  * Measure on 5 V ouput
  ** The LEDs and the 5 VSB are disabled.
- Remote on/off (jumper select)
  signal PS_ON control power on/off
  Active high or active low
- Dimensions: 3.775" X 3.55"
- Weight: GW: 440 g; NW: 178 g
- Operating temperature: -40°C ~ 85°C



PIN Assignments

Primary Input Power Terminal

CN1	Pin1	Pin2
	GND	VIN1

Secondary Input (Pass thru.)

CN2	Pin1	Pin2
	GND	VIN2

Output Power Terminal

CN3	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
	PW_OK	PS_ON	GND	-12 V	GND	+12 V
	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	GND	GND	+5 V	+5 V	5 VSB	GND

Packing information

1 x PM-P001	1 x Manual

Ordering Information

Part No.	Description
PM-P001-R11	100 W DC/DC 6-36 VDC input; 12 V, 5 V, -12 V, 5 VSB output

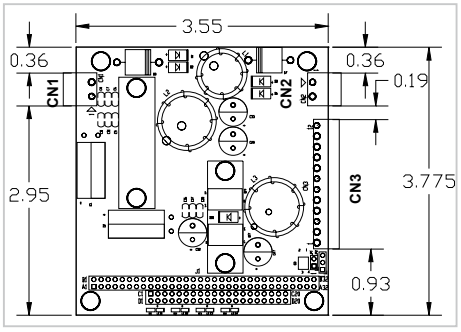
PM-P002

PC/104 100 W DC to DC Converter Module

Features

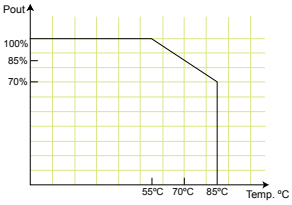
1. High efficiency up to 90%
2. Over voltage protection
3. Over current protection
4. Input power protection
5. Short circuit protection
6. Low quiescent current
7. Low EMI & RFI
8. RoHS compliant
9. Remote on/off
10. Non-isolated type

Dimensions (Inches)



Specifications

- Output (max.): 5 V@8 A, 12 V@5 A
  Max. total output: 100 W
- Input: 8 VDC to 36 VDC
- Performance characteristics
  Line regulation: <20 mV*
  Load regulation: <150 mV
  Efficiency: up to 90%
  Quiescent current: <2 mA**
  * Measure on 5 V ouput
  ** The LEDs are disabled.
- Remote on/off (jumper select)
  signal PS_ON control power on/off
  Active high or active low
- Dimensions: 3.775" X 3.55"
- Weight: GW: 432 g; NW: 170 g
- Operating temperature: -40°C ~ 85°C



PIN Assignments

Primary Input Power Terminal

CN2	Pin1	Pin2
	GND	VIN2

Secondary Input (Pass thru.)

CN1	Pin1	Pin2
	GND	VIN1

Output Power Terminal

CN3	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
	PW_OK	PS_ON	GND	+12V	+12V	GND
	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	GND	+5 V	+5 V	+5 V	+5 V	GND

Packing information

1 x PM-P002	1 x Manual

Ordering Information

Part No.	Description
PM-P002-R11	100 W DC/DC 8-36 VDC input; 12 V, 5 V output

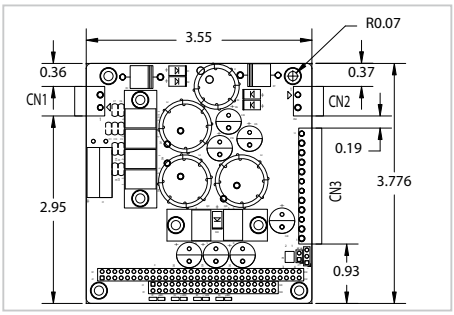
PM-P003

PC/104 65 W DC to DC Converter Module

Features

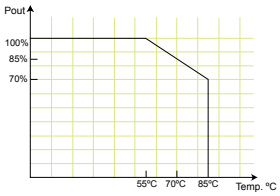
1. High efficiency up to 90%
2. Over voltage protection
3. Over current protection
4. Input power protection
5. Short circuit protection
6. Low quiescent current
7. Low EMI & RFI
8. RoHS compliant
9. Remote on/off
10. Non-isolated type

Dimensions (Inches)



Specifications

- Output (max.): 5 V@13 A & 12 V@5 A
  Max. total output: 65 W
- Input: 8 VDC to 36 VDC
- Performance characteristics
  Line regulation: <20 mV*
  Load regulation: <150 mV
  Efficiency: up to 90%
  Quiescent current: <2 mA**
  * Measure on 5 V ouput
  ** The LEDs are disabled.
- Remote on/off (jumper select)
  signal PS_ON control power on/off
  Active high or active low
- Dimensions: 3.775" X 3.55"
- Weight: GW: 445 g; NW: 182 g
- Operating temperature: -40°C ~ 85°C



PIN Assignments

Primary Input Power Terminal

CN1	Pin1	Pin2
	GND	VIN1

Secondary Input (Pass thru.)

CN2	Pin1	Pin2
	GND	VIN2

Output Power Terminal

CN3	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
	PW_OK	PS_ON	GND	+12V	+12V	GND
	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	GND	+5 V	+5 V	+5 V	+5 V	GND

Packing information

1 x PM-P003	1 x Manual

Ordering Information

Part No.	Description
PM-P003-R11	65 W DC/DC 8-36 VDC input; 12 V, 5 V output

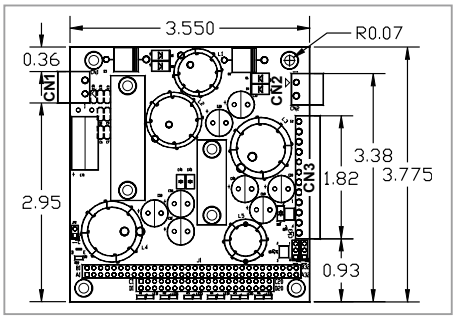
PM-P004

PC/104 40 W DC to DC Converter Module

Features

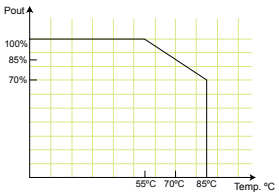
1. High efficiency up to 90%
2. Over voltage protection
3. Over Current Protection
4. Input power protection
5. Short circuit protection
6. Low quiescent current
7. Low EMI & RFI
8. RoHS compliant
9. Remote on/off
10. AT or ATX mode
11. Non-isolated type

Dimensions (Inches)



Specifications

- Output (max.): 5 V@8 A, -12 V @0.5 A, 12 V@2.5 A, 3.3 V@7 A & 5 VSB@1 A
  Max. total output: 40 W
- Input: 8 VDC to 36 VDC
- Performance characteristics
  Line regulation: <20 mV*
  Load regulation: <150 mV
  Efficiency: up to 90%
  Quiescent current: <2 mA**
  * Measure on 5 V ouput
  ** The LEDs and the 5 VSB are disabled.
- Remote on/off (jumper select)
  signal PS_ON control power on/off
  Active high or active low
- Dimensions: 3.775" X 3.55"
- Weight: GW: 444 g; NW: 182 g
- Operating temperature: -40°C ~ 85°C



PIN Assignments

Primary Input Power Terminal

CN1	Pin1	Pin2
	GND	VIN1

Secondary Input (Pass thru.)

CN2	Pin1	Pin2
	GND	VIN2

Output Power Terminal

CN3	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
	PW_OK	PS_ON	-12V	+12V	+3.3V	+3.3V
	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	GND	GND	+5 V	+5 V	5 VSB	GND

Packing information

1 x PM-P004	1 x Manual

Ordering Information

Part No.	Description
PM-P004-R11	40 W DC/DC 8-36 VDC input; -12 V, 12 V, 5 V, 3.3 V, 5 VSB output

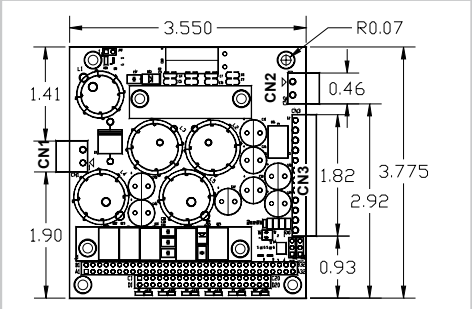
PM–P005

PC/104 60 W DC to DC Converter Module

Features

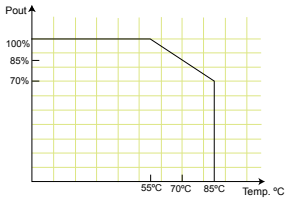
1. High efficiency up to 90%
2. Over voltage protection
3. Over current protection
4. Input power protection
5. Short circuit protection
6. Low quiescent current
7. Low EMI & RFI
8. RoHS compliant
9. Remote on/off
10. AT or ATX mode
11. Non-isolated type

Dimensions (Inches)



Specifications

- Output (max.): 5 V@12 A, 12 V@5 A, 3.3 V@10 A & 5 VSB@1 A
  Max. total output: 60 W
- Input: 8 VDC to 36 VDC
- Performance characteristics
  Line regulation: <20 mV*
  Load regulation: <150 mV
  Efficiency: up to 90%
  Quiescent current: <2 mA**
  * Measure on 5 V ouput
  ** The LEDs and the 5 VSB are disabled.
- Remote on/off (jumper select)
  signal PS_ON control power on/off
  Active high or active low
- Dimensions: 3.775" X 3.55"
- Weight: GW: 446 g; NW: 184 g
- Operating temperature: -40°C ~ 85°C



PIN Assignments

Primary Input Power Terminal

CN1	Pin1	Pin2
	GND	VIN1

Secondary Input (Pass thru.)

CN2	Pin1	Pin2
	GND	VIN2

Output Power Terminal

CN3	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
	PW_OK	PS_ON	GND	+3.3 V	+3.3 V	+12 V
	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	GND	GND	+5 V	+5 V	5 VSB	GND

Packing information

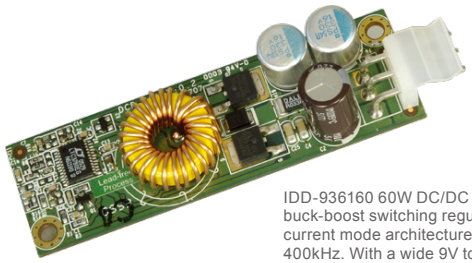
1 x PM-P005	**1 x Manual**

Ordering Information

Part No.	Description
PM-P005-R11	60 W DC/DC 8-36 VDC input; 12 V, 5 V, 3.3 V, 5 VSB output

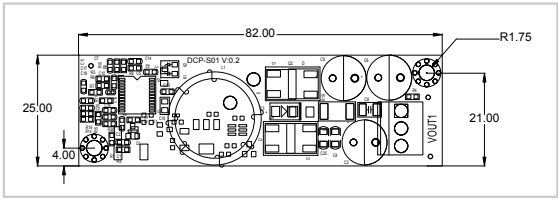
IDD–936160

60 W DC/DC Converter Module



IDD-936160 60W DC/DC Converter Module is a high performance buck-boost switching regulator power module. The constant frequency current mode architecture allows a phaselockable frequency of up to 400kHz. With a wide 9V to 36V input and 12V output and seamless transfers between operating modes, the IDD-936160 is ideal for embedded systems with limited space.

Dimensions (Millimeters)



Features

1. Wide input range: 9-36 VDC
2. 12 VDC output up to 5 Amp
3. Compact size
4. Efficiency up to 95%
5. RoHS compliant

PIN Assignments

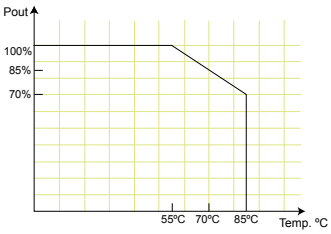
Input/Output Connector

VOUT1	Pin1	Pin2	Pin3
	+12 V Output	GND	Vin

Cable P/N: 32100-124001-RS

Specifications

- Output (max.): 12 V@5 A
  Max. total output: 60 W
- Input: 9 VDC to 36 VDC
- Performance characteristics
  Noise & ripple: <300 mV
  Line regulation: <300 mV
  Load regulation: <85 mV
  Efficiency up to 95%
- Dimensions: 82 mm x 25 mm
- Weight: NW: 28 g
- Operating temperature: -40°C ~ 85°C



Packing information

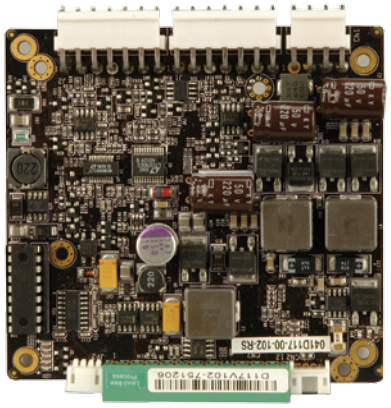
1 x IDD-936160	**1 x QIG**
1 x 300 mm wrie cable (P/N: 32100-124001-RS)	

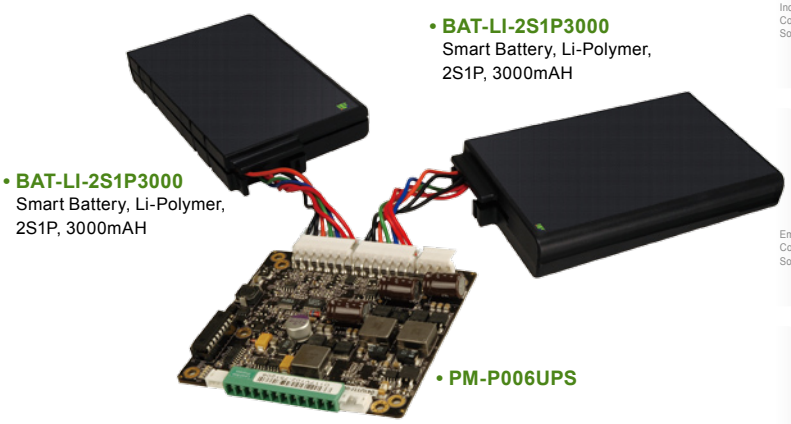
Ordering Information

Part No.	Description
IDD-936160-R10	60 W DC/DC 9~36 V input; 12 V output

PM-P006UPS

65 W DC/DC Converter Module, with UPS



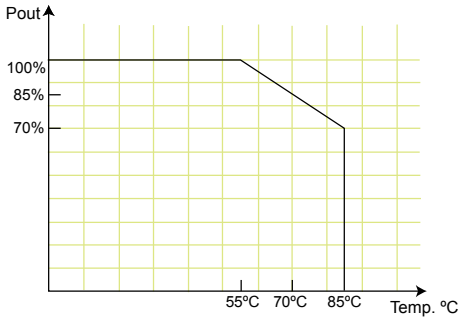


Features

1. Load down protection
2. Over voltage protection
3. Short circuit protection
4. Over current protection
5. Smart battery charger for Li-Polymer
6. I/O interface: SMBus/I2C & RS-232
7. Support up to 2 battery packs
8. AT/ATX modes
9. Utility program: pull data out through RS-232 to a system

Specifications

- Output (max.): 12 V@4 A, 5 V@10 A, 3.3 V@8 A, 5 VSB@1 A, & -12 V@0.1 A
  Max. total output: 65 W
- Input: 6 VDC to 36 VDC
- Battery charge voltage: 12 V ~ 36 V
- Efficiency: up to 90%
- Dimensions: 90 mm x 96 mm
- Weight: NW: 178 g
- Operating temperature: -20°C ~ 85°C
- Storage temperature: -40°C ~ 125°C



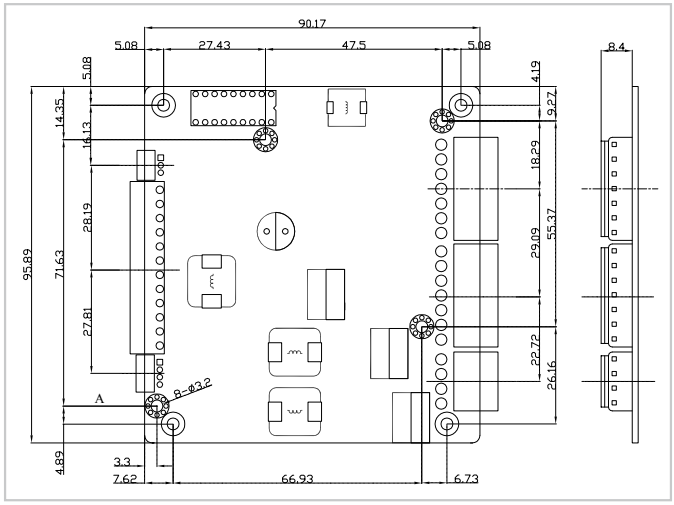
Applications

Battery backup system

Portable equipment

Power sensitive equipment

Dimensions (Millimeters)



Packing Information

1 x PM-P006UPS
1 x QIG
1 x Utility CD
1 x DB-9 pin connector cable (32100-157200-RS)

Ordering Information

Part No.	Description
PM-P006UPS-R10	65 W ATX DC/DC 6-36 VDC input, 12 V, 5 V, 3.3 V, -12 V and 5 VSB PC/104 power module with UPS
BAT-LI-2S1P3000	Smart battery, Li-Polymer, 2S1P, 3000 mAH
CB-JST3PSW001-RS	30 cm power on/off switch cable
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input

High Energy Density, Light Weight and Compact DC/DC UPS & Power Module

Protect your precious equipment from damage. Reduce the risk of losing valuable data.

An uninterruptible power supply provides emergency backup power when the main power is lost.

Benefits:

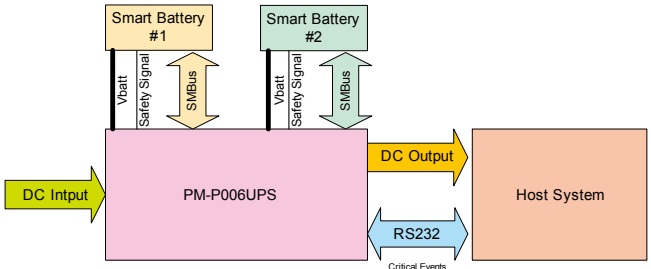
- Provides power for a certain amount of time after a power failure has occurred.
- Provides stable power to equipment during line sags and spikes.
- Absorb power surges and transients.
- Smooth out noisy power sources.

The utility software displays the following information:

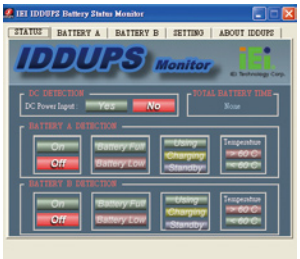
- Current power source
- Battery status
- Charging status
- Remaining battery percentage

Battery Capacity Status

Level 2 Smart Battery Charger & Power Modules



Block Diagram



Battery Monitoring Utility

Battery Monitoring connection cable (PN: 32100-157200-RS)

Battery Pack (P/N: BAT-LI-2S1P3000)

Battery Type	Li-Polymer			
Pout(W)	100	80	60	40
Time(min)	8	14	22	35
Dimensions	DR202 package 148x89x20 mm			
Capacity	3000 mAH			
Weight	230 g			

Pin Assignments

Input Power Connector

CN1	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	Gnd	Gnd

I/O Interface RS-232 Connector

JP2	Pin1	Pin2	Pin3
	Gnd	TX	RX

Output Power Connector

CN7	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
	N12V	Gnd	12 V	Gnd	3 V	3 V	Gnd	5 V	5 V	Gnd	5 VSB	Gnd

ATX Mode Connector

CN2	Pin1	Pin2	Pin3	Pin4
	PWROK	5 VSB	Gnd	PS_ON

Battery Connector

J1 J2	Pin1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
	BAT+	BAT+	Clock	Data	Temp	Gnd	Gnd

Wire Harness Selection Guide

DC Input

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

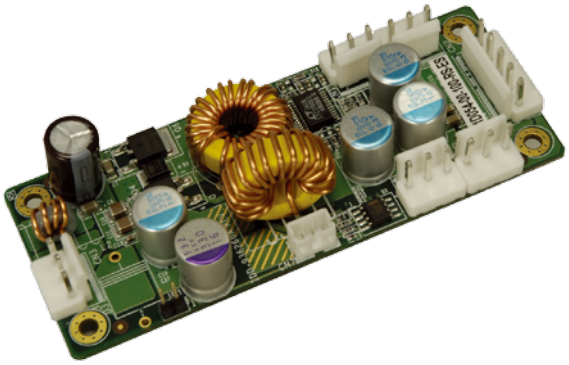
Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

Power On/Off

Options 1.
PN: CB-JST3PSW001-RS
Cable to SBC(power ok & 5 VSB)
Pin1= Power ok
Pin2= 5 VSB
Pin3, 4= Connector switch

IDD-936260A

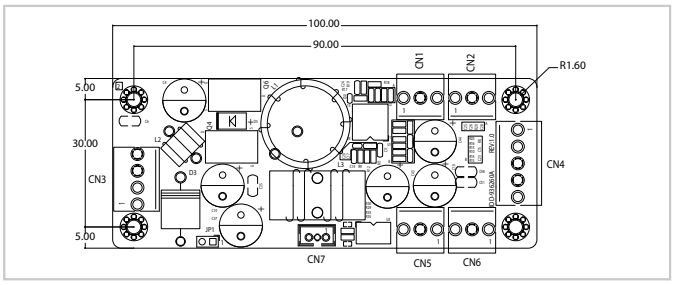
60 W DC/DC Converter Module



Features

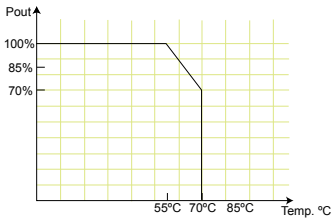
1. Wide input range: 9-36 VDC
2. AT or ATX mode on/off
3. Up to 90% efficiency
4. RoHS compliant
5. Compact size

Dimensions (Millimeters)



Specifications

- Output (max.): 12 V@3 A, 5 V@10 A & 5 VSB@0.5 A
  Max. total output: 60 W
- Input: 9 VDC to 36 VDC
- Performance characteristics
  Noise & ripple: <240 mV
  Line regulation: <50 mV
  Load regulation: <100 mV
  Efficiency: Up to 90%
- Dimensions: 40 mm x 100 mm
- Weight: NW: 58 g
- Operating temperature: -20°C ~ 70°C



Packing information

1 x IDD-936260A
1 x QIG

PIN Assignments

Input Power Connector

CN3	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector

CN4	Pin 1	Pin 2	Pin 3	Pin 4	Pin5
	+5 V	+5 V	GND	GND	+12 V

CN1 CN2 CN5 CN6	Pin 1	Pin 2	Pin 3
	+5 V	GND	+12 V

ATX Mode Connector

CN7	Pin 1	Pin 2	Pin 3
	5 VSB	GND	PS_ON

Ordering Information

Part No.	Description
IDD-936260A-R10	60 W DC/DC 9~36 V input; 12 V, 5 V & 5 VSB output
CB-5PSBC-RS	20 cm cable to SBC power input
CB-JST3PSW-RS	30 cm cable oN/off switch
CB-JST3P001-RS	30 cm 5 VSB, PS_ON wire to SBC
CB-3PSATA-RS	10 cm cable for SATA power
CB-3PIDE-RS	10 cm cable for IDE HDD power
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input

Wire Harness Selection Guide

DC Input (CN3)

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

I/O Power (CN1, CN2, CN5 & CN6)

Options 1.
PN: CB-3PSATA-RS
Cable for SATA

Options 2.
PN: CB-3PIDE-RS
Cable for IDE HDD or any STD 4 pins I/O devices

SBC Main Power (CN4)

Options 1.
PN: CB-5PSBC-RS

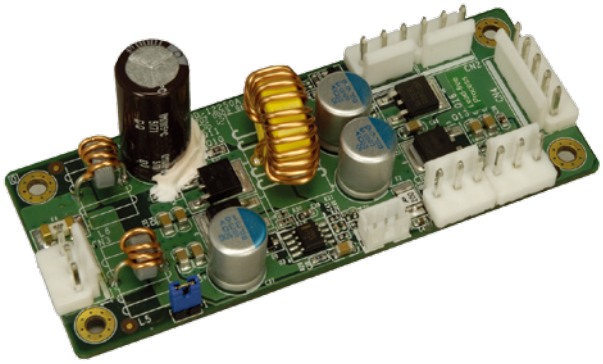
Power On/Off (CN7)

Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

Options 2.
PN: CB-JST3P001-RS
Cable to SBC (5 VSB & PS_ON)

IDD-12250A

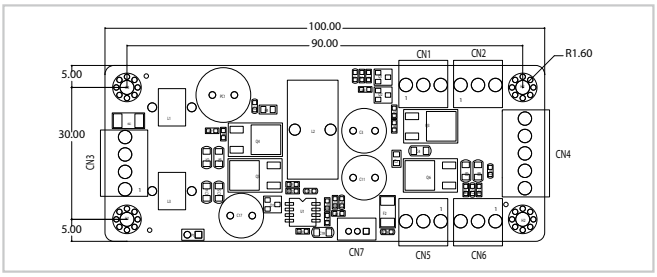
50 W+60 W DC/DC Converter Module



Features

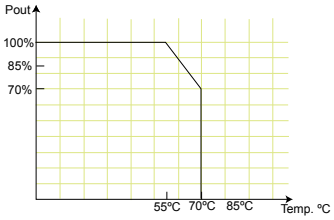
1. 50 W + 60 W (12 V Pass Thru) total power 110 W
2. AT or ATX mode on/off
3. Up to 90% efficiency
4. RoHS compliant
5. Compact size

Dimensions (Millimeters)



Specifications

- Output (max.): 12 V@5 A (pass thru.), 5 V@10 A & 5 VSB@0.5 A
  Max. total output: 50 W plus 60 W (12 V pass thru.)
- Input: 12 VDC
- Performance characteristics
  Noise & ripple: <25 mV
  Load regulation: <120 mV
  Efficiency: Up to 90%
- Dimensions: 40 mm x 100 mm
- Weight: NW: 46 g
- Operating temperature: 0°C ~ 70°C



Packing information

1 x IDD-12250A

1 x QIG

PIN Assignments

Input Power Connector

CN3	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector

CN4	Pin 1	Pin 2	Pin 3	Pin 4	Pin5
	+5 V	+5 V	GND	GND	+12V

CN1 CN2 CN5 CN6	Pin 1	Pin 2	Pin 3
	+5V	GND	+12V

ATX Mode Connector

CN7	Pin 1	Pin 2	Pin 3
	5VSB	GND	PS_ON

Ordering Information

Part No.	Description
IDD-12250A-R10	50 W+60 W DC/DC 12 V input; 12 V, 5 V & 5 VSB output
CB-5PSBC-RS	20 cm cable to SBC power input
CB-JST3PSW-RS	30 cm cable on/off switch
CB-JST3P001-RS	30 cm 5 VSB, PS_ON wire to SBC
CB-3PSATA-RS	10 cm cable for SATA power
CB-3PIDE-RS	10 cm cable for IDE HDD power
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input

Wire Harness Selection Guide

DC Input (CN3)

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

I/O Power (CN1, CN2, CN5 & CN6)

Options 1.
PN: CB-3PSATA-RS
Cable for SATA

Options 2.
PN: CB-3PIDE-RS
Cable for IDE HDD or any STD 4 pins I/O devices

SBC Main Power (CN4)

Options 1.
PN: CB-5PSBC-RS

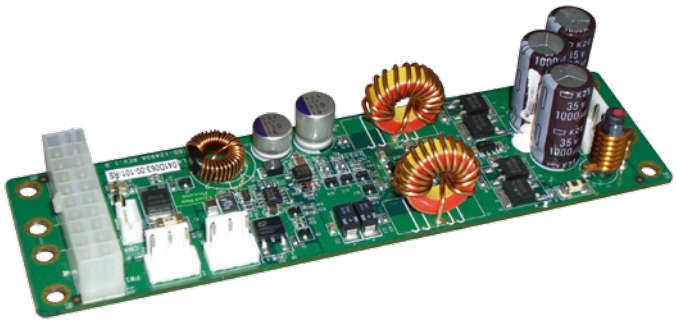
Power On/Off (CN7)

Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

Options 2.
PN: CB-JST3P001-RS
Cable to SBC (5 VSB & PS_ON)

IDD-12490A

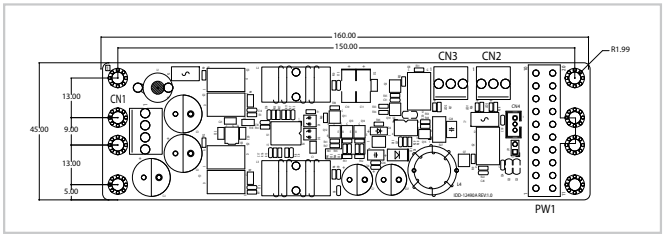
90 W+120 W DC/DC Converter Module



Features

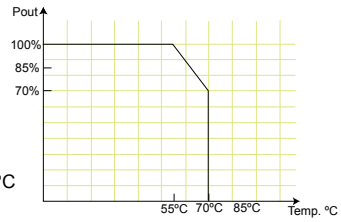
1. 90 W + 120 W (12 V Pass Thru); total power 210 W
2. AT or ATX mode on/off
3. Up to 90% efficiency
4. RoHS compliant
5. Compact size

Dimensions (Millimeters)



Specifications

- Output (max.): 12 V@10 A(pass thru.), 5 V@10 A, 3.3 V@8 A, -12 V@0.3 A & 5 VSB@2A
  Max. total output: 90 W plus 120 W (12 V pass thru.)
- Input: 12 VDC
- Performance characteristics
  Noise & ripple: <120 mV
  Load regulation: <60 mV
  Efficiency: Up to 90%
- Dimensions: 45 mm x 160 mm
- Weight: NW: 82 g
- Operating temperature: -20°C ~ 70°C



Packing information

1 x IDD-12490A

1 x QIG

PIN Assignments

Input Power Connector

CN1	Pin 1	Pin 2	Pin 3	Pin 4
	Vin	Vin	GND	GND

Output Power Connector

CN2 CN3	Pin 1	Pin 2	Pin 3
	+5 V	GND	+12 V
PW1	Standard 20-pin ATX		

ATX Mode Connector

CN4	Pin 1	Pin 2	Pin 3
	5 VSB	GND	PS_ON

Ordering Information

Part No.	Description
IDD-12490A-R11	90 W + 120 W DC/DC 12 V input; 12 V, 5 V, 3.3 V, -12 V & 5 VSB output
CB-JST3PSW-RS	30 cm cable on/off switch
CB-JST3P001-RS	30 cm 5 VSB, PS_ON wire to SBC
CB-3PSATA-RS	10 cm cable for SATA power
CB-3PIDE-RS	10 cm cable for IDE HDD power
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input
CB-ATX20P-RS	30 cm 20-pin ATX to 20-pin ATX cable

Wire Harness Selection Guide

DC Input (CN1)

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

SBC Main Power (PW1)

Options 1.
PN: CB-ATX20P-RS
20-pin ATX to 20-pin ATX cable

I/O Power (CN2 & CN3)

Options 1.
PN: CB-3PSATA-RS
Cable for SATA

Options 2.
PN: CB-3PIDE-RS
Cable for IDE HDD or any STD 4-pin I/O devices

Power On/Off (CN4)

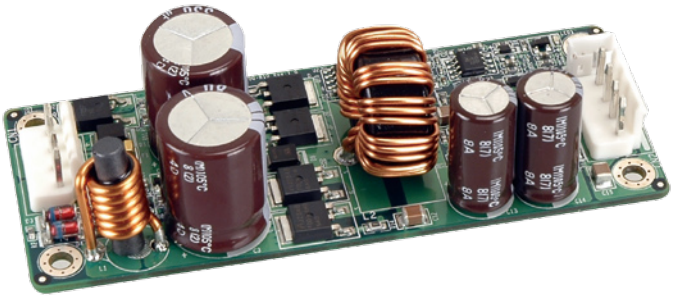
Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

Options 2.
PN: CB-JST3P001-RS
Cable to SBC (5 VSB & PS_ON)

IDD-241100/IDD-481100

100 W DC/DC Converter Module

NEW

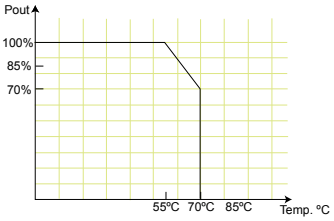


Features

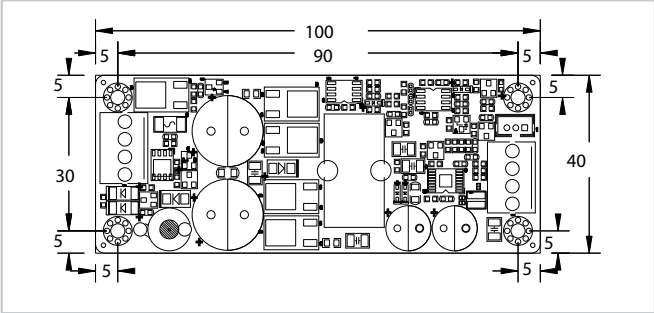
1. 100W total power
2. AT mode on/off
3. Up to 90% efficiency
4. RoHS compliant
5. Compact size

Specifications

- Output (max.): 12 V@8.33 A
- Max. total output: 100 W
- Input:
  - 24 VDC for IDD-241100
  - 48 VDC for IDD-481100
- Performance characteristics
- Noise & ripple: <240 mV
- Load regulation: <240 mV
- Efficiency: Up to 90%
- Dimensions: 40 mm x 100 mm
- Weight: NW: 60 g
- Operating temperature: -20°C ~ 70°C



Dimensions (Millimeters)



Packing information

1 x IDD-241100/IDD-481100
1 x QIG

PIN Assignments

Input Power Connector

CN1	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector

CN2	Pin 1	Pin 2	Pin 3	Pin 3
	+12 V	+12V	GND	GND

Power on/off, LED Connector

CN3	Pin 1	Pin 2	Pin 3
	SHDN# (Shut down output Power function, short Pin1& Pin2)	GND	LEDA (Disable LED function, short Pin2& Pin3)

Ordering Information

Part No.	Description
IDD-241100-R10	100 W DC/DC 24 V input; 12 V output with 100W total power.
IDD-481100-R10	100 W DC/DC 48 V input; 12 V output with 100W total power.
CB-JST3PSW-RS	30 cm cable on/off switch
CB-NOLP4-RS	20 cm cable for terminal block DC input

Wire Harness Selection Guide

DC Input (CN1)

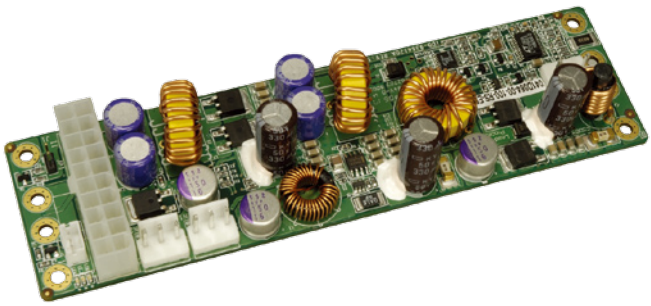
Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

Power On/off (CN1)

Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

IDD-9364120A

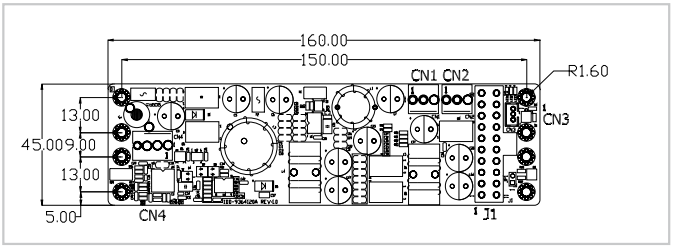
120 W DC/DC Converter Module



Features

1. Wide input range: 9-36 VDC
2. AT or ATX mode on/off
3. Output voltage protection
4. Up to 90% efficiency
5. RoHS compliant
6. Compact size

Dimensions (Millimeters)



Specifications

- Output (max.): 12 V@4 A, 5 V@10 A, 3.3 V@8 A, -12 V@0.3 A & 5 VSB@2 A
  Max. total output: 120 W
- Input: 9 VDC to 36 VDC
- Performance characteristics
  Noise & ripple: <240 mV
  Line regulation: <50 mV
  Load regulation:<100 mV
  Efficiency: Up to 90%
- Dimensions: 45 mm x 160 mm
- Weight: NW: 104 g
- Operating temperature: -20°C ~ 70°C

Packing information

1 x IDD-9364120A
1 x QIG

PIN Assignments

Input Power Connector

CN4	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector

CN1 CN2	Pin 1	Pin 2	Pin 3
	+5 V	GND	+12 V
J1	Standard 20pins ATX		

ATX Mode Connector

CN3	Pin 1	Pin 2	Pin 3
	5 VSB	GND	PS_ON

Ordering Information

Part No.	Description
IDD-9364120A-R11	120 W DC/DC 9~36 V input; 12 V, 5 V, 3.3 V, -12 V & 5 VSB output
CB-JST3PSW-RS	30 cm cable on/off switch
CB-JST3P001-RS	30 cm 5 VSB, PS_ON wire to SBC
CB-3PSATA-RS	10 cm cable for SATA power
CB-3PIDE-RS	10 cm cable for IDE HDD power
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input
CB-ATX20P-RS	30 cm 20-pin ATX to 20-pin ATX cable

Wire Harness Selection Guide

DC Input (CN4)

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

SBC Main Power (J1)

Options 1.
PN: CB-ATX20P-RS
20-pin ATX to 20-pin s ATX cable

I/O Power (CN1 & CN2)

Options 1.
PN: CB-3PSATA-RS
Cable for SATA

Options 2.
PN: CB-3PIDE-RS
Cable for IDE HDD or any STD 4-pin I/O devices

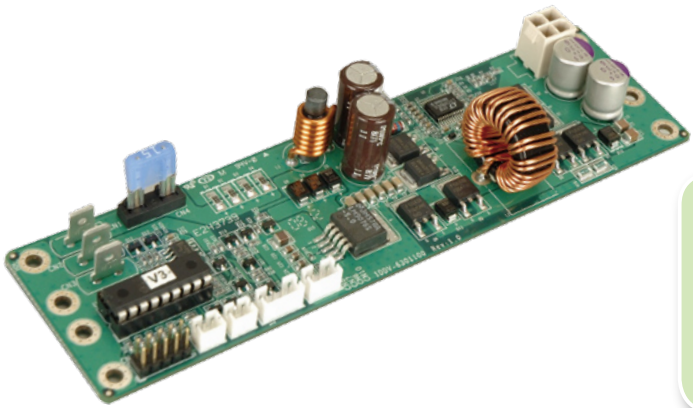
Power On/Off (CN3)

Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

Options 2.
PN: CB-JST3P001-RS
Cable to SBC (5 VSB & PS_ON)

IDDV-6301100

100 W DC/DC Smart single 12V Converter Module for Vehicle



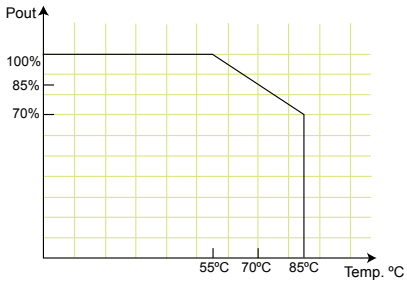
Dedicated single 12V Power for Car PC and Battery Powered Applications Designed to provide power and to control the on/off switch of a motherboard based on the ignition status.

Features

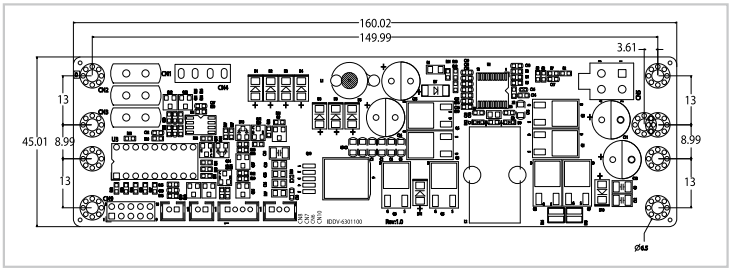
1. Wide input range: 6-30 VDC
2. Smart system on/off control
3. 6 selectable power on/off timing modes
4. Load down protection
5. Over voltage protection
6. Short circuit protection
7. Over current protection
8. Battery voltage monitor
9. Amplifier on-delay control
10. RoHS compliant
11. Compact size
12. IrDA remote control off (options)

Specifications

- Output (max.): 12 V@8 A
- Max. total output: 100 W
- Input: 6 VDC to 30 VDC
- Min. input operating voltage: 5.7 V
- Max. input operating voltage: 30 V
- Deep-discharge shut down voltage: 10.6 V
- Startup voltage: 8 V
- Efficiency: up to 90%
- Dimensions: 45 mm X 160 mm
- Weight: NW: 118 g
- Operating temperature: -20°C ~ 85°C
- Storage temperature: -40°C ~ 125°C



Dimensions (Millimeters)



PIN Assignments

CN1	Batt (+)	CN5	Power output connecter Pin1&2:GND Pin3&4:Vcc(12V)
CN2	ACC ON	CN6	LED& Amplifter function Pin1&2: Connect LED(Battery function) Pin3&4: Connect to Amplifter
CN3	Batt (-)	CN7	Power switch for motherboard
CN4	Fuse (15A)	CN8	Power switch for IDDV-6301100 (for manual) Pin1: Vcc(5V) Pin1: Gnd

Wire Harness Selection Guide

Input Power Connector (CN15, 16, 17)

PN: CB-BATACC-RS
Wire to battery and ACC on

Packing information

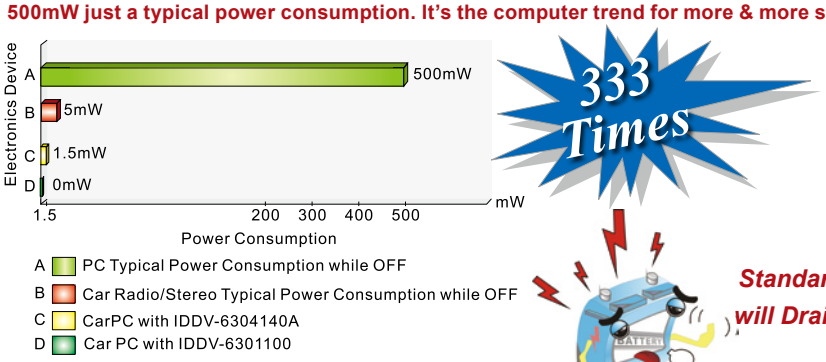
1 x IDDV-6301100
1 x Wire cable for LED /AMP (P/N:32100-153500-RS)
1 x QIG

Ordering Information

Part No.	Description
IDDV-6301100-R10	100 W DC/DC 6-30 VDC input; single 12V output vehicle converter module

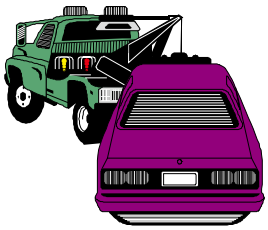
It's Not Zero Power Consumption While the PC is OFF

500mW just a typical power consumption. It's the computer trend for more & more standby power to be required.



Dead Battery

Standard ATX Power Supply will Drain out the Car Battery !



How the IDDV-6301100 work to keep your battery alive.

Step1. Ignition=Off

IDDV-6301100 cut off all the power.

Step 2. Ignition=On

Auto On(jumper select) –The uP sends an " ON" signal to the motherboard via the 2 wires connected to the motherboard's On/Off pins.

Manual On(jumper select) – Nothing happens until push the On/Off button from the IDDV-6304140A.

Step 3. Ignition=On

during driving: act like regular PC, turn on/off anytime by push the on/off button.

Step 4. Ignition=Off. Soft Off 10,20,30,40,50,60 Sec

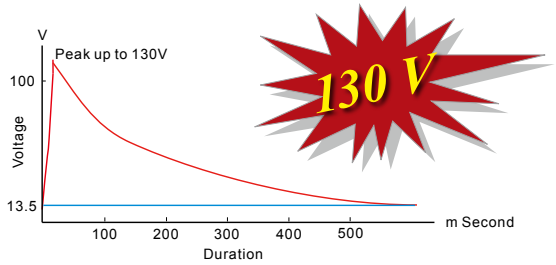
IDDV-6304140A waits for "10~60" second (jumper select) and then uP send a signal to turn off motherboard. The computer should turn off gracefully by the shutdown procedure. During this period, the normal power will be available for the system perform the normal shutdown.

Step 5. Ignition=Off. Hard Off 20,40,60,80,120 Sec

12V will still available for a "20~120" second (jumper select) then it cut off by uP.

12V Battery Vehicle Load Dump Transients

'Load dump' transients occur when a battery is disconnected from the charging system during charge. The alternator, with a finite response time of 40ms to 400 ms, generates power with nowhere to go. It will damage the electronics devices.

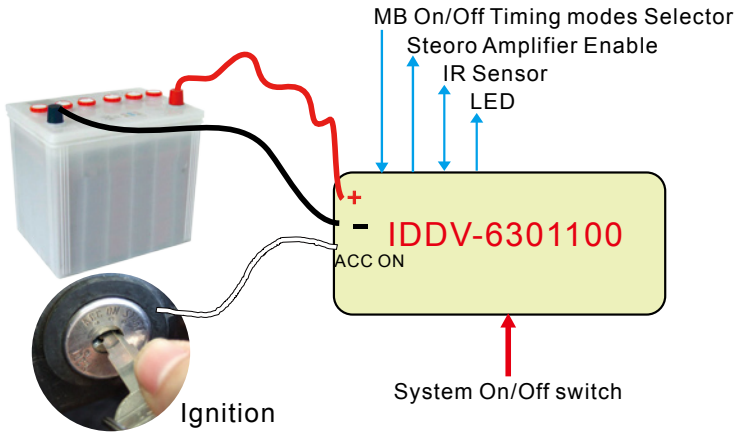


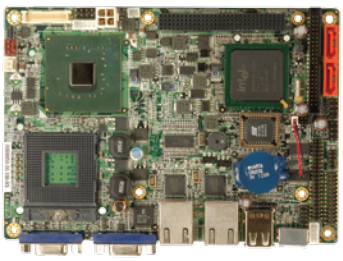
12V System
Load Dump Transients

Load dump transients typically reach peak voltages of 130 volts in 12 volt systems with relatively slow rise times.

EMI sprays and RFI sparking is everywhere and electrical transients run zapping the embedded electronics. Electronics located in vehicle environment must withstand 600V transients and " load dump" situations.

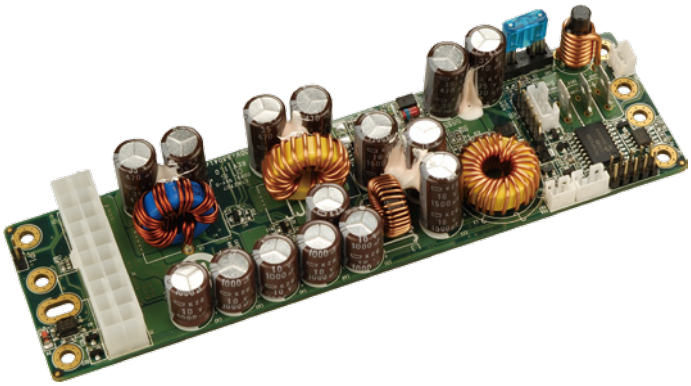
IDDV-6301100 Wiring Diagram





IDDV-6304140A

140 W DC/DC Smart ATX Converter Module for Vehicle



Dedicated ATX Power for Car PC and Battery Powered Applications

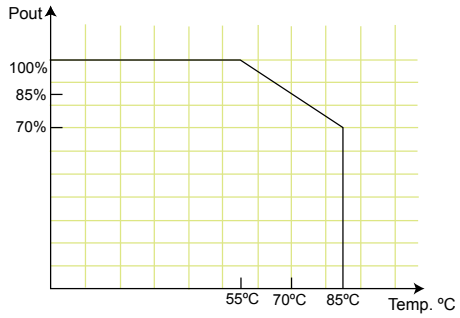
Designed to provide power and to control the on/off switch of a motherboard based on the ignition status.

Features

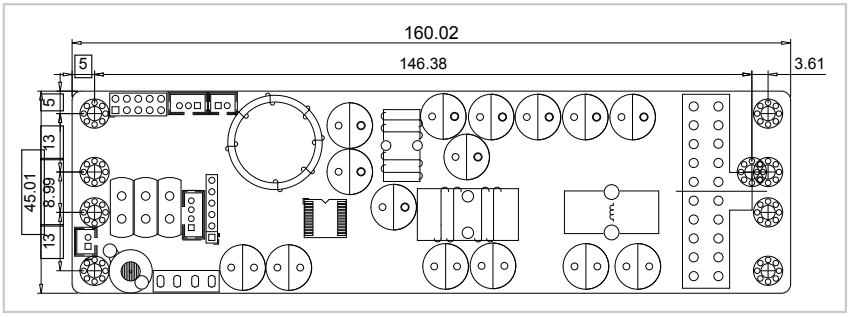
1. Wide input range: 6-30 VDC
2. Smart system on/off control
3. 6 selectable power on/off timing modes
4. Load down protection
5. Over voltage protection
6. Short circuit protection
7. Over current protection
8. Battery voltage monitor
9. Amplifier on-delay control
10. RoHS compliant
11. Compact size
12. IrDA remote control off (options)

Specifications

- Output (max.): 5 V@10 A, 3.3 V@10 A, 12 V@4 A, -12 V@0.15 A & 5 VSB@1.5 A
- Max. total output: 140 W
- Input: 6 VDC to 30 VDC
  Min. input operating voltage: 5.7 V
  Max. input operating voltage: 30 V
- Deep-discharge shut down voltage: 10.6 V
- Startup voltage: 8 V
- Efficiency: up to 90%
- Dimensions: 45 mm X 160 mm
- Weight: NW: 118 g
- Operating temperature: -20°C ~ 85°C
- Storage temperature: -40°C ~ 125°C



Dimensions (Millimeters)



PIN Assignments

Input Power Connector

CN15	Batt (+)
CN16	ACC ON
CN17	Batt (-)

Output Power Connector

J1	Standard 20-pin ATX

Wire Harness Selection Guide

SBC Main Power (J1)

PN: CB-ATX20PIO-RS
20-pin ATX to 20-pin ATX / SATA / HDD cables

Input Power Connector (CN15, 16, 17)

PN: CB-BATACC-RS
Wire to battery and ACC on

Packing information

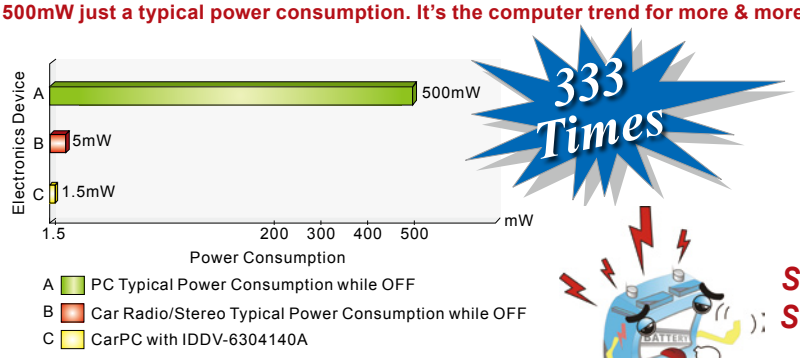
- **1 x IDDV-6304140A**
- **1 x QIG**
- **1 x Wire cable for PWR/SW AND MB/SW (P/N: 32100-153400-RS)**
- **1 x Wire cable for LED /AMP (P/N: 32100-153500-RS)**

Ordering Information

Part No.	Description
IDDV-6304140A-R10	140 W DC/DC 6-30 VDC input; vehicle converter module
CB-ATX20PIO-RS	30 cm, 20-pin ATX to 20-pin ATX / SATA (20 cm) / HDD cables
CB-BATACC-RS	30 cm, wire to battery and ACC on

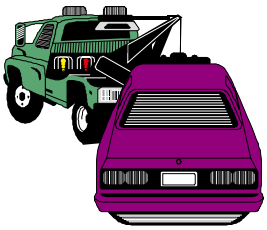
It's Not Zero Power Consumption While the PC is OFF

500mW just a typical power consumption. It's the computer trend for more & more standby power to be required.



Dead Battery

Standard ATX Power Supply will Drain out the Car Battery !



How the IDDV-6304140A work to keep your battery alive.

Step1. Ignition=Off
IDDV-6304140A cuts off all the power rails including 5VSB, internal µP power consumption keep less than 1.5mW.

Step2. Ignition=On (ACC On)
The IDDV-6304140A waits for 10 seconds and then turns on the 5VSB rail.
Auto On(jumper selectable) - After 1 sec. The µP sends an "ON" signal to the motherboard via the 2 wires connected to the motherboard's on/off pins.
Manual On(jumper selectable) - Nothing happens until the power button on the IDDV-6304140A is pushed.

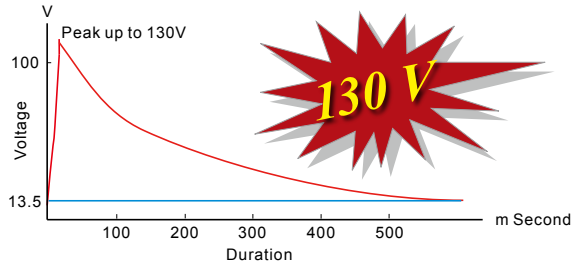
Step3. Ignition=On
during driving: act like regular PC, turn on/off anytime by push the on/off button.

Step4. Ignition=Soft Off.
IDDV-6304140A waits for "10~40" seconds (jumper selectable) and then µP send a signal to turn off motherboard. The computer should turn off gracefully by the shutdown procedure. During this period, the normal power will be available for the system perform the normal shutdown.

Step5. Ignition=Hard Off.
5VSB will still available for a 0, 45 seconds, 1 hour, never (jumper selectable) then it cut off by µP. At this stage, the system will keep the minimum power consumption so that the system won't drain the car battery.

12V Battery Vehicle Load Dump Transients

'Load dump' transients occur when a battery is disconnected from the charging system during charge. The alternator, with a finite response time of 40ms to 400 ms, generates power with nowhere to go. It will damage the electronics devices.

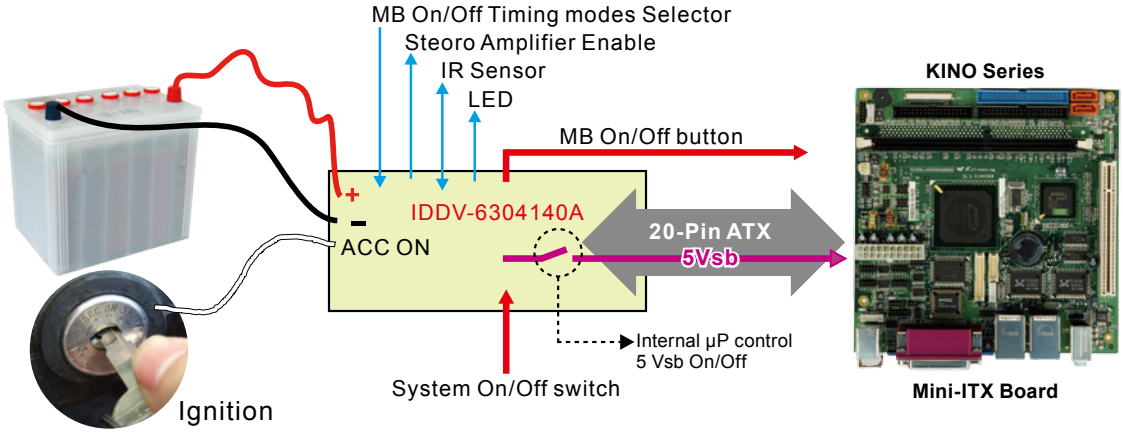


12V System
Load Dump Transients

Load dump transients typically reach peak voltages of 130 volts in 12 volt systems with relatively slow rise times.

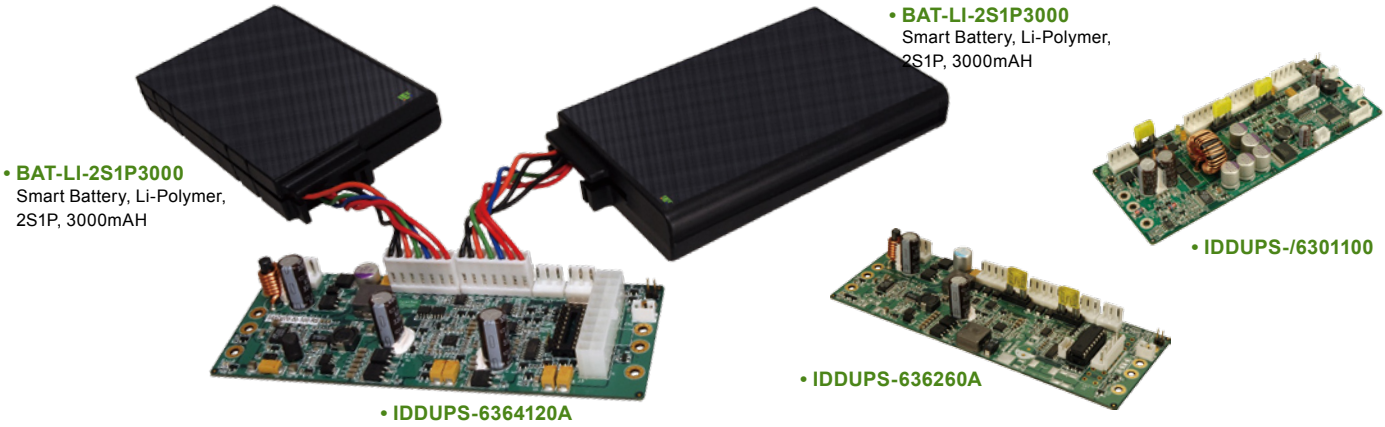
EMI sprays and RFI sparking is everywhere and electrical transients run zapping the embedded electronics. Electronics located in vehicle environment must withstand 600V transients and " load dump" situations.

IDDV-6304140A Wiring Diagram



IDDUPS-6364120A/636260A/6301100

120 W / 60 W / 100 W DC/DC Converter Module, with UPS

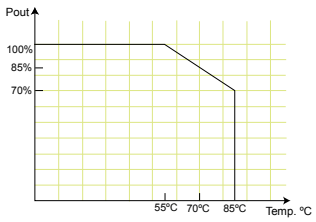


Features

1. Load down protection
2. Over voltage protection
3. Short circuit protection
4. Over current protection
5. Smart battery charger for Li-Polymer
6. I/O interface: SMBus/I2C & RS-232
7. Support up to 2 battery packs
8. AT/ATX modes
9. Utility program: pull data out through RS-232 to system

Specifications

- Output: Voltage (max load)
  -IDDUPS-6364120A:
  5 V@10 A, 12 V@4 A, -12 V@0.3 A, 3.3 V@8 A & 5 VSB@2 A
  -IDDUPS-636260A: 5 V@10 A, 12 V@3 A, 5 VSB@0.5 A
  -IDDUPS-6301100: 12V@8.3A
- Max. total output:
  IDDUPS-6364120A: 120 W
  IDDUPS-636260A: 60 W
  IDDUPS-6301100: 100 W
- Input: 6 VDC to 36 VDC / 6 VDC to 30 VDC (IDDUPS-6301100)
- Battery charge voltage: 12 V ~ 36 V
- Efficiency: up to 90%
- Dimensions: 60 mm x 160 mm
- Weight (NW) : IDDUPS-6364120A: 98 g, IDDUPS-636260A: 75 g, IDDUPS-6364120A: 82 g
- Operating temperature: -20°C ~ 85°C
- Storage temperature: -40°C ~ 125°C



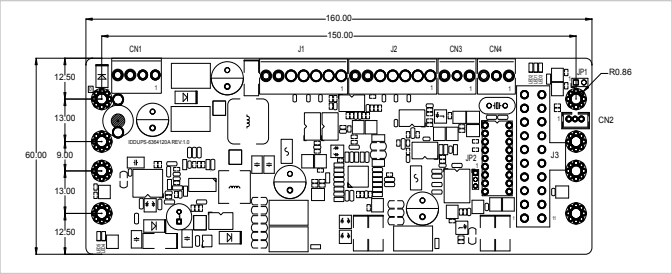
Applications

Battery backup system

Portable equipment

Power sensitive equipment

Dimensions (Millimeters)



Packing information

1 x IDDUPS-6364120A/636260A/6301100
1 x QIG
1 x DB-9 pin connector cable (32100-157200-RS)
1 x CD utility software

Ordering Information

Part No.	Description
IDDUPS-6364120A-R12	120 W ATX DC/DC 6-36 VDC input, 12 V, 5 V, 3.3 V, -12 V and 5 VSB power module with UPS
IDDUPS-636260A-R10	60 W ATX DC/DC 6-36 VDC input, 12 V, 5 V and 5 VSB power module with UPS
IDDUPS-6301100-R10	100 W AT DC/DC 6-30 VDC input, 12 V power module with UPS
BAT-LI-2S1P3000-R20	Smart battery, Li-Polymer, 2S1P, 3000 mAH
CB-5PSBC-RS	20 cm cable to SBC power input
CB-JST3PSW-RS	30 cm cable on/off switch
CB-JST3P001-RS	30 cm 5 VSB, PS_ON wire to SBC
CB-3PSATA-RS	10 cm cable for SATA power
CB-3PIDE-RS	10 cm cable for IDE HDD power
CB-P1LP4-RS	20 cm cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter
CB-MD4P4-RS	16 cm cable for 63000-FSP120AAB-RS 120 W AC-DC adapter
CB-NOLP4-RS	20 cm cable for terminal block DC input
CB-ATX20P-RS	30 cm 20-pin ATX to 20-pin ATX cable

High Energy Density, Light Weight and Compact DC/DC UPS & Power Module

Protect your precious equipment from damage. Reduce risk of losing valuable data.

An uninterruptible power supply provides emergency backup power when the main power is lost.

Benefit:

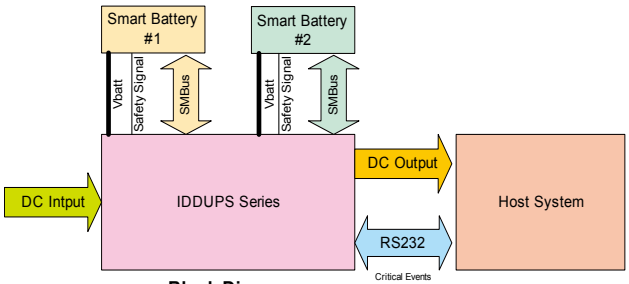
- Provides power for a certain amount of time after a power failure has occurred.
- Provides stable power to equipment during line sags and spikes.
- Absorb power surges & transients.
- Smooth out noisy power sources.

The utility software displays the following information:

- Current power source.
- Battery status.
- Charging status.
- Percentage remaining

Battery Capacity Status

Level 2 Smart Battery Charger & Power Modules



Block Diagram

Battery Pack: Part # BAT-LI-2S1P3000

Battery Type	Li-Polymer			
Pout(W)	100	80	60	40
Time(min)	8	14	22	35
Dimensions	DR202 package 148x89x20 mm			
Capacity	3000 mAH			
Weight	230 g			

PIN Assignments

Input Power Connector

CN1	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector

CN3 CN4	Pin 1	Pin 2	Pin 3
	+5 V	GND	+12 V

For IDDUPS-6364120A

J3	Standard 20-pin ATX

For IDDUPS-636260A

CN7	Pin1	Pin 2	Pin 3	Pin 4	Pin 5
	+5 V	+5 V	GND	GND	+12 V

ATX Mode Connector

CN2	Pin 1	Pin 2	Pin 3
	5 VSB	GND	PS_ON

Battery Connector

J1 J2	Pin1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
	BAT+	BAT+	Clock	Data	Temp	GND	GND

IDDUPS-636100-R10 (D281) Jumper Setting Table

Input Power Connector Pin Define

CN1	Pin 1	Pin 2	Pin 3	Pin 4
	VIN	VIN	GND	GND

Output Power Connector Pin Define

CN6	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
	+12V	+12V	GND	GND	GND

USB Connector

CN11	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
	EXT_P5V	USB_D-	USB_D+	NULL	GND

Wire Harness Selection Guide

DC Input

Options 1.
PN: CB-P1LP4-RS
Cable for FSP0601AD101C 60 W/ UP0451E12P 45 W/UP0251E12PL 25 W AC-DC adapter

Options 2.
PN: CB-MD4P4-RS
Cable for 63000-FSP120AAB-RS 120 W AC-DC adapter

Options 3.
PN: CB-NOLP4-RS
Cable for terminal block

SBC Main Power

Options 1.
PN: CB-ATX20P-RS
20-pin ATX to 20-pin ATX cable

I/O Power

Options 1.
PN: CB-3PSATA-RS
Cable for SATA

Options 2.
PN: CB-3PIDE-RS
Cable for IDE HDD or any STD 4-pin I/O devices

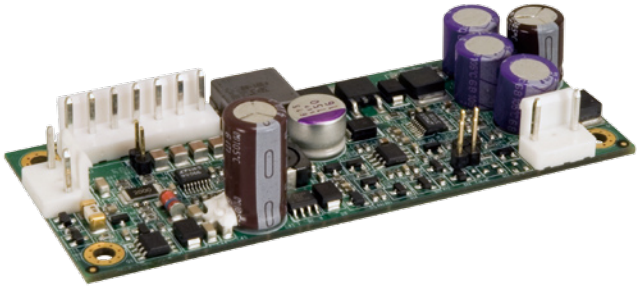
Power On/Off

Options 1.
PN: CB-JST3PSW-RS
Cable with on/off switch

Options 2.
PN: CB-JST3P001-RS
Cable to SBC (5 VSB & PS_ON)

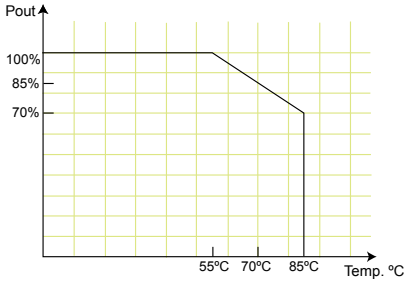
IDDUPS-1228180

80 W Battery Charger Module for ACE-818C



Specifications

- Output (9max.): 20 V@4 A
- Battery charge voltage: 12 VDC to 28 VDC
- Efficiency: up to 90%
- Dimensions: 40 mm x 100 mm
- Weight: NW: 40 g
- Operating temperature: 0°C ~ 50°C
- Storage temperature: -20°C ~ 85°C



PIN Assignments

Input Power Connector

CN1	Pin 1	Pin 2	Pin 3
	VIN	-	GND

Output Power Connector

CN2	Pin 1	Pin 2	Pin 3
	VOUT	-	GND

Battery Connector

CN3	Pin1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
	BAT+	BAT+	NC	NC	NC	GND	GND

Packing information

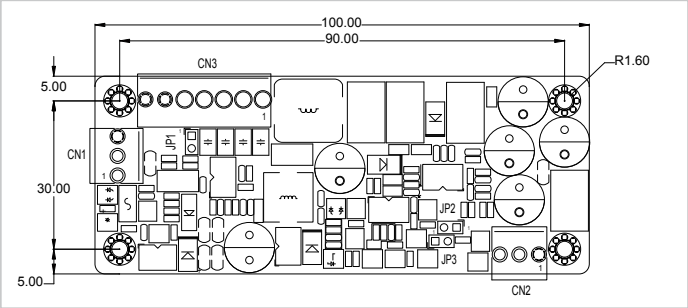
1 x IDDUPS-1228180-R10

2 x CB-818C-RS

Ordering Information

Part No.	Description
IDDUPS-1228180-R10	80 W; battery charger for ACE-818C
ACE-818C	+24 VDC input 140 W ATX / battery backup function power supply
BAT-LI-2S1P3000	Li-Polyme, smart battery pack, 2S1P, 3000 mAH
CB-818C-RS	40 cm, cable for ACE-818C input/ output

Dimensions (Millimeters)



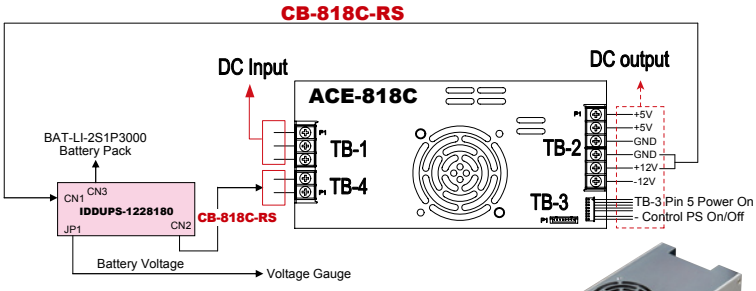
Wire Harness Selection Guide

PN: CB-818C-RS
Cable for ACE-818C input/output

Battery Pack: Part # BAT-LI-2S1P3000

Battery Type	Li-Polymer			
Pout(W)	100	80	60	40
Time(min)	8	14	22	35
Dimensions	DR202 package 148x89x20 mm			
Capacity	3000 mAH			
Weight	230 g			

ACE-818C & IDDUPS-1228180 Wiring information



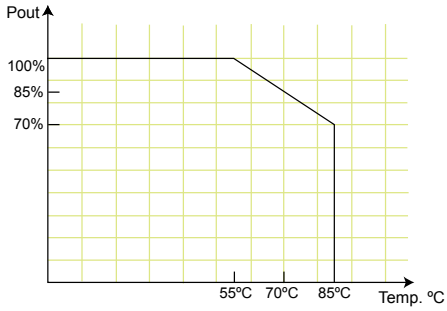
*** Detailed information refer to Page 10-45*

IDD-930160-KIT

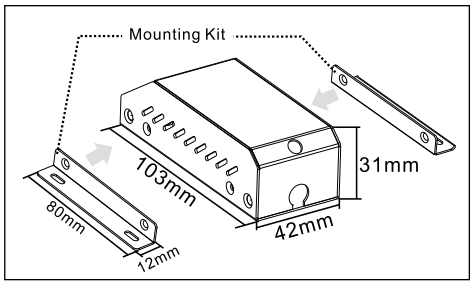
60 W DC/DC Converter Module for AFOLUX Panel PC and Monitor

Specifications

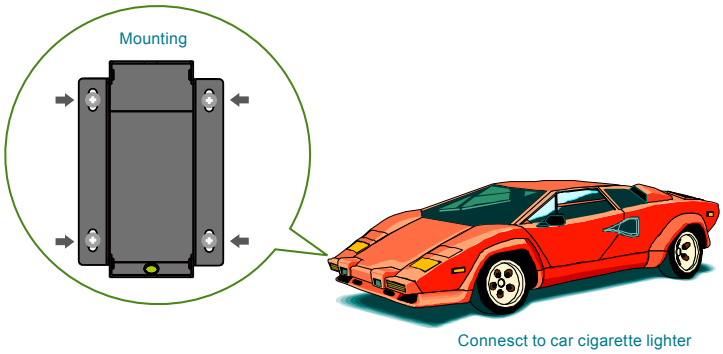
- Input voltage: 9-30 VDC
- Input current:Max. 8.2 A at 9 VDC
- Output: 12 V@5 A
- Max. total output: 60W
- Performance characteristics:
  Noise and ripple:<120 mV
  Line regulation: <2.5%
  Load regulation: <2.5%
- Transient toggle rate: 250 Hz (50% duty ratio)
- Transient current step:
  From 0% to 50% and 50% to 100% of max current
- Efficiency: typ. 95% (Vin=12 V, 80% of full load)
- Dimensions: 42 mm x 103 mm x 31 mm
- Mounting kit: 12 mm x 80 mm
- Cable length: 180 cm
- Operating temperature: -10°C~55°C
- Load down protection



Dimensions (Millimeters)



Typical Applications



Packing Information

1 x IDD-930160-KIT-R20
1 x Mounting kit
1 x Screw kit
1 x Anti-slip strip
1 x Utility CD

Ordering Information

Part No.	Description
IDD-930160-KIT-R20	60 W DC/DC 9-30 VDC input vehicle power adapter

PS/2 Selection Guide

Safety (ITE Standard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Standard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

AC Input

Product	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-4860AP	600 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	24 A	30 A	V1: 12 A (1 A min) V2: 12 A (1 A min) V3: 18 A (0.5A min) V4: 18 A		1 A	3 A	
	ACE-850AP	500 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	27 A (0.4 A min)	29 A (3 A min)	V1: 18 A (1 A min) V2: 18 A (1 A min)	0.3 A	0.8 A	2 A	
	Medical ACE-4840APM	400 W	ATX	Active	90 ~ 265 VAC	47 ~ 63 HZ	30 A (0.5 A min)	30A (0.3 A min)	V1: 17 A (1 A min) V2: 17 A (1 A min)	0.3 A	0.8 A	2 A	
	ACE-841AP-S	400 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	28 A (0.2 A min)	33 A (4 A min)	20 A (0.5 A min)	0.5 A	1 A	2 A	
	ACE-840A	400 W	ATX	-	95 ~ 132 VAC 180 ~ 264 VAC	47 ~ 63 HZ	28 A (0.2 A min)	40 A (2 A min)	15 A (0.2 A min)	0.3 A	0.8 A	2 A	
	ACE-832AP	300 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	28 A (0.3 A min)	30 A (0.1 A min)	15 A	0.3 A	0.8 A	2 A	
	ACE-832AP-S	300 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	28 A (0.3 A min)	30 A (0.1 A min)	15 A	0.3 A	0.8 A	2 A	
	ACE-828A	280 W	ATX	-	90 ~ 130 VAC 180 ~ 260 VAC	47 ~ 63 HZ	8 A	25 A (2 A min)	10 A (0.1 A min)	0.5 A	0.5 A	0.72 A	
	Medical ACE-828M	280 W	ATX	-	90 ~ 130 VAC 180 ~ 260 VAC	47 ~ 63 HZ	8 A	25 A (2 A min)	10 A (0.1 A min)	0.5 A	0.5 A	0.72 A	
	ACE-T140A	400 W	AT	Active	95 ~ 264 VAC	47 ~ 63 HZ		42 A (2 A min)	15 A (1 A min)	0.3 A	0.8 A		
	ACE-935AL	300 W	AT	-	85 ~ 140 VAC 170 ~ 270 VAC	47 ~ 440 HZ		40 A (3 A min)	8 A (0.1 A min)	0.3 A	0.7 A		
	ACE-932A	300 W	AT	-	85 ~130 VAC 180 ~ 265 VAC	47 ~ 63 HZ		33 A (3 A min)	8 A (0.1 A min)	0.5 A	3 A		
	ACE-925AP-U	250 W	AT	Active	90 ~ 265 VAC	47 ~ 63 HZ		22 A (1 A min)	11 A (1 A min)	0.5 A	0.7 A		

PS/2 Selection Guide

Meets ITE (IEC60950) Standard: V ; Meets Medical (IEC60601) Standard : M

AC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
70%	0°C ~ 50°C	-40°C ~ 70°C	V	V		V	V		V	V	V	PS/2	
63%	0°C ~ 50°C	-20°C ~ 80°C	V	V	V	V	V	NEMKO		V	V	PS/2	
68%	0°C ~ 50°C	-20°C ~ 80°C	V	V			V	VDE				PS/2	
70%	0°C ~ 50°C	-20°C ~ 80°C	V	V		V	V			V		PS/2	
65%	0°C ~ 50°C	-20°C ~ 65°C		V					V		V	PS/2	
65%	0°C ~ 50°C	-20°C ~ 80°C		V	V	V	V		V	V	V	PS/2	
65%	0°C ~ 50°C	-20°C ~ 80°C		V	V	V	V		V		V	PS/2	
65%	-20°C ~ 70°C	-40°C ~ 75°C			V	V				V		PS/2	
65%	-20°C ~ 70°C	-40°C ~ 75°C		M		M				M		PS/2	
75%	0°C ~ 50°C	-20°C ~ 80°C	V	V		V	V			V	V	PS/2	
68%	0°C ~ 50°C	-40°C ~ 75°C		V								PS/2	
68%	-20°C ~ 70°C	-40°C ~ 75°C		V	V							PS/2	
70%	0°C ~ 50°C	-25°C ~ 70°C	V	V		V	V			V		PS/2	

PS/2 Selection Guide

Safety (ITE Standard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Standard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

AC Input

Product	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-925A	200 W	AT		85 ~ 265 VAC	47 ~ 63 HZ		22 A (1 A min)	7 A (0.1 A min)	0.5 A	0.7 A		
	ACE-925AP	200 W	AT	Active	85 ~ 265 VAC	47 ~ 63 HZ		22 A (1 A min)	7 A (0.1 A min)	0.5 A	0.7 A		
	Medical ACE-925M	200 W	AT	-	90 ~ 264 VAC	47 ~ 63 HZ		22 A (4 A min)	7 A (1 A min)	0.5 A	0.5 A		
	ACE-920A	150 W	AT	-	85 ~ 265 VAC	47 ~ 63 HZ		20 A (1 A min)	4 A (0.1 A min)	0.5 A	0.5 A		

DC Input

Product	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-828V	250 W	ATX	-	12 VDC (9 ~ 16 VDC)	-	8 A	25 A (2 A min)	8 A (0.1 A min)	0.5 A	1 A	0.72 A	
	ACE-828C	250 W	ATX	-	24 VDC (18 ~ 32 VDC)	-	8 A	25 A (2 A min)	7 A (0.1 A min)	0.5 A	1 A	0.72 A	
	ACE-828T	250 W	ATX	-	-48 VDC (-40 ~ -72 VDC)	-	8 A	25 A (2 A min)	7 A (0.1 A min)	0.5 A	1 A	0.72 A	
	ACE-925C	220 W	AT	-	24 VDC (19 ~ 30 VDC)	-		25 A (4 A min)	6 A	1 A	2 A		
	ACE-932T	300 W	AT	-	-48 VDC (-40 ~ -70 VDC)	-		33 A (1 A min)	8 A	0.5 A	3 A		

PS/2 Selection Guide

Meets ITE (IEC60950) Standard: V ; Meets Medical (IEC60601) Standard : M

AC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
68%	0°C ~ 50°C	-40°C ~ 75°C		V						V		PS/2	
68%	0°C ~ 50°C	-40°C ~ 75°C	V	V		V				V		PS/2	
65%	0°C ~ 70°C	-40°C ~ 75°C		M		M				M		PS/2	
68%	0°C ~ 50°C	-40°C ~ 75°C		V						V		PS/2	

DC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
65%	0°C ~ 70°C	-40°C ~ 75°C										PS/2	
65%	0°C ~ 50°C	-40°C ~ 75°C	V		V	V	V			V		PS/2	
65%	0°C ~ 50°C	-40°C ~ 75°C			V	V	V			V		PS/2	
65%	0°C ~ 50°C	-40°C ~ 75°C		V		V				V		PS/2	
70%	-20°C ~ 70°C	-40°C ~ 75°C		V	V	V				V		PS/2	

ACE-4860AP

600 W PS/2 Type ATX Power Supply

PFC

Specifications

Input	**Voltage**	90 ~ 264 VAC Full Range		
	Frequency	47 ~ 63 Hz		
	Input current	12 A(RMS)@115 VAC 6 A(RMS)@230VAC		
	Inrush current	60 A max for 115 VAC 150 A max for 230 VAC		
Output	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	0 A	30 A	50 mV P-P
	+12 V1	1 A	12 A	120 mV P-P
	+12 V2	1 A	12 A	120 mV P-P
	+12 V3	0.5 A	18 A	120 mV P-P
	+12 V4	0 A	18 A	120 mV P-P
	-12 V	0 A	1 A	120 mV P-P
	+3.3 V	0 A	24 A	50 mV P-P
	+5 Vsb	0 A	3 A	50 mV P-P
	*The +5 V and + 3.3 V total output shall not exceed 160 W *Total current of +12 V1~ +12 V4 power not exceed 40 A			
	Over voltage protection	+12 V : 14.6 V ±10% +5 V : 6.2 V ±10% +3.3 V : 4 V ±10%		
	Short circuit protection	+3.3 V, +5 V, +12 V shut down and latch off		
General specifications	**Watt**	600 W		
	PFC	Active		
	Hold-up time	16 ms Min.		
	Efficiency	70%		
	MTBF	100,000 hours		
	Temperature	Operating : 0 ~ 50˚C (40 ~ 50˚C derating curve) Storage : -40 ~ 70˚C		
	Dimensions	140X 150 X 86 (mm) 5.51 X 5.91 X 3.39 (inch)		
	Output conntector	20+4-pin ATX x1, 4-pin 12 V CPU x1, HDD/CDROM x9, FDD x1, SATA x2		

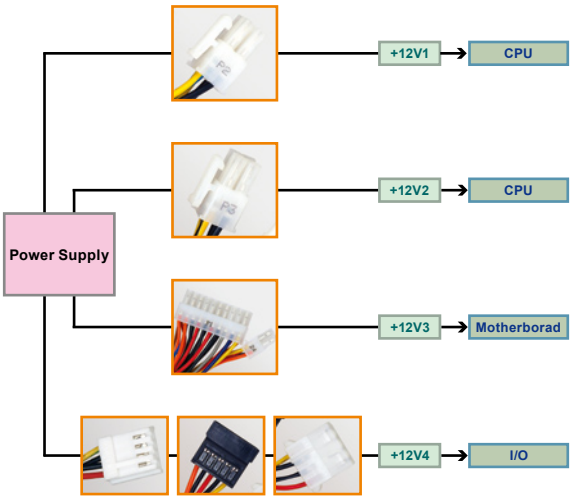
Ordering Information

Part No.	Description
ACE-4860AP-R11-RS	600 W AC-DC PS/2 ATX power supply, with PFC

Features

1. 600 W for high power consumption RAID / multi-core system
2. High efficiency
3. ATX 2.0 standard with new 20+4 ATX power and SATA connector design
4. Overvoltage and overcurrent protection
5. 100% Hi-pot tested
6. Multiple safety and EMC certifications
7. Total +12 V output up to 40 A

Power Connector +12 V



Quad 12 V Separate Lines:

As processors become faster and more highly integrated, more current is required. To reduce power distribution loss, board manufactures are moving from 5V to 12V power distribution. System components that use 12V are continuing to increase in power.

Version 2.0 of Intel's ATX12V Power Supply Design Guide began recommending dual 12V lines for PSUs that can deliver more than 18A at 12V. Why? To abide by safety requirements of UL and EM 60950, which stipulates not more than 240VA on any wires or exposed traces. Intel's PSU Guide calls for a current limiter that keeps current to under 20A on each of the 12V rails: 12V x 20A = 240VA.

What is the safety reason for this 240VA maximum? It's the maximum recommended for an electronic device that a consumer will have reasonable likelihood of access.

The +12V1 & +12V2 (1st. & 2nd +12V rails) supply the AUX12V (2x12V) 4-pin plug, which feeds only the CPUs.

The +12V3 (3rd +12V rail) supplies the 24-pin ATX main power connector, which feeds for the Mother Board.

The +12V4 (4th. +12V rail) supplies 4-pin Peripheral Power connector, which feeds for the I/O devices.

The quad 12V rails provide more flexible application, such as:
RAID System – dedicated +12V rail for IO devices (HDDs)
Server (multiple Processors) – Multiple dedicated +12 rails for Processors

ACE-850AP

500 W PS/2 Type ATX Power Supply

PFC

New version 20+4-pin power supply

Specifications

Input voltage	90 ~ 264 VAC full range			
Input frequency	47 ~ 63 Hz			
Input current	10 A (RMS) for 115 VAC			
	5 A (RMS) for 230 VAC			
Inrush current	80 A max. for 115 VAC			
	120 A max. for 230 VAC			
Output voltage	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+3.3 V	0.4 A min	27 A	50 mV
	+5 V	3 A min	29 A	50 mV
	+12 V1	1 A min	18 A	120 mV
	+12 V2	1 A min	18 A	120 mV
	-5 V		0.3 A	120 mV
	-12 V		0.8 A	120 mV
	+5 Vsb		2 A	50 mV
	+3.3 V &+5 V total output not exceed 150 W +3.3 V & +5 V & +12 V total output not exceed 478 W			
Over voltage protection	+5 V +3.3 V +12 V	5.6 V ~ 6.5 V 3.8 V ~ 4.5 V 13 V ~ 14.5 V		
Short circuit protection	+3.3 V, +5 V , +12 V short circuit all the output			
Hold up time	18 ms min.			
MTBF	100,000 hours			
Operating temperature	0˚C ~ 50˚C			
Storage temperature	-20˚C ~ 80˚C			
Efficiency	63%			
Dimensions	140 x 150 x 86 mm			
Outline connector	20+4-pin ATX x1, 4-pin 12 V CPU x1, HDD/ CDROM x9, FDD x2, SATA x2, extra +5 V(P10) x1			

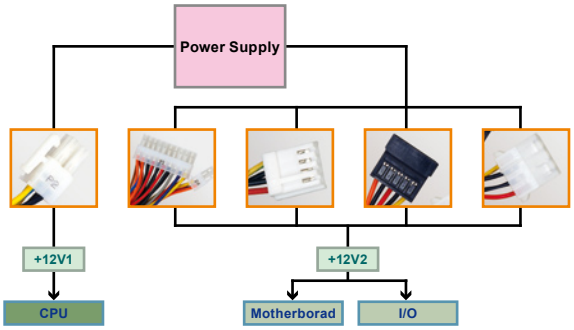
Ordering Information

Part No.	Description
ACE-850AP-RS-24	20+4-pin 500 W ATX power supply with PFC function

Features

1. High efficiency
2. 20+4-pin ATX power connector
3. Short circuit protection on all outputs
4. Extra P10 (+5 V) connector for most high-power requirement
5. Built-in ball bearing cooling fan
6. Total +12 V output up to 36 A

Power Connector +12 V



Dual 12 V Separate Lines:

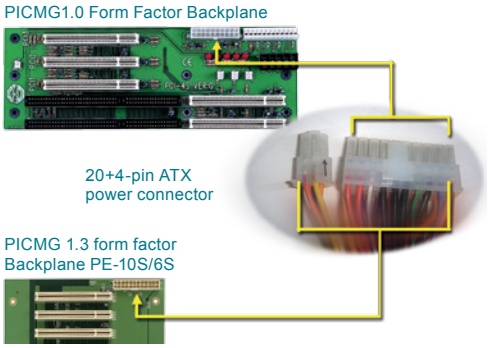
As processors become faster and more highly integrated, more current is required. To reduce power distribution loss, board manufactures are moving from 5V to 12V power distribution. System components that use 12V are continuing to increase in power.

Version 2.0 of Intel's ATX12V Power Supply Design Guide began recommending dual 12V lines for PSUs that can deliver more than 18A at 12V. Why? To abide by safety requirements of UL and EM 60950, which stipulates not more than 240VA on any wires or exposed traces. Intel's PSU Guide calls for a current limiter that keeps current to under 20A on each of the 12V rails: 12V x 20A = 240VA.

What is the safety reason for this 240VA maximum? It's the maximum recommended for an electronic device that a consumer will have reasonable likelihood of access.

The +12V1 (1st. +12V rails) supply the AUX12V (2x12V) 4-pin plug, which feeds only the CPUs.

The +12V2 (2nd. +12V rail) supplies the 24-pin ATX main power connector & 4-pin Peripheral Power connectors, which feeds for the Mother Board & IO devicesle dedicated +12 rails for Processors



1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

ACE-4840APM

400 W PS/2 Medical Type ATX Power Supply

PFC

Medical

New Version 20+4 PIN POWER SUPPLY

Specifications

Input Voltage	90 ~ 265 VAC Full Range			
Input Frequency	47 ~ 63 Hz			
Input Current	8 A (RMS) for 115 VAC			
	4 A (RMS) for 230 VAC			
Inrush Current	60 A MAX. for 115 VAC			
	100A MAX. for 230 VAC			
Output Voltage	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+3.3 V	0.5 A min	30 A	50 mV
	+5 V	0.3 A min	30 A	50 mV
	+12 V1	1 A min	17 A	120 mV
	+12 V2	1 A min	17 A	120 mV
	-5 V		0.3 A	100 mV
	-12 V		0.8 A	120 mV
	+5 V sb		2 A	50 mV
	+3.3 V &+5 V total output not exceed 180 W +3.3 V & +5 V & +12 V total output not exceed 380 W			
Overvoltage Protection	+5 V +3.3 V +12 V	5.7 V ~ 6.5 V 3.7 V ~ 4.5 V 13.3 V ~ 15.6 V		
Short Circuit Protection	+3.3 V, +5 V , +12 V short circuit all the output			
Hold Up Time	20 ms min.			
MTBF	100,000 hours			
Operating Temperature	0 ˚C ~ 50 ˚C			
Storage Temperature	-20 ˚C ~ 80 ˚C			
Efficiency	68%			
Dimensions	140 mm x 150 mm x 86 mm			
Outline Connector	20+4PIN ATX x1, 4PIN 12V CPU x1, HDD/CDROM x5, FDD x2, SATA x2, Extra +5V(P10) x1			

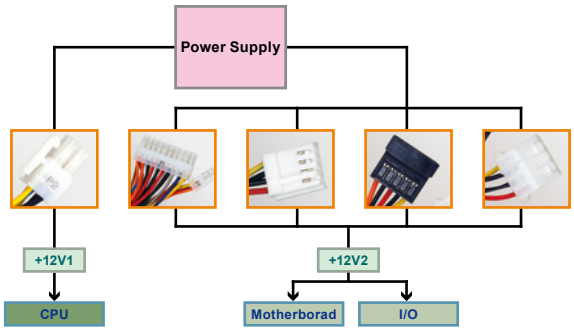
Ordering Information

Part No.	Description
ACE-4840APM-RS	400 W AC-DC PS/2 ATX Power Supply, meet Medical standard, with PFC

Features

1. Internal 8 cm fan
2. Meets medical safety standards
3. Line input fuse protection
4. Output overvoltage protection
5. Short circuit protection on all outputs
6. Total +12 V output up to 34 A

Power Connector +12V



Dual 12V Separate Lines:

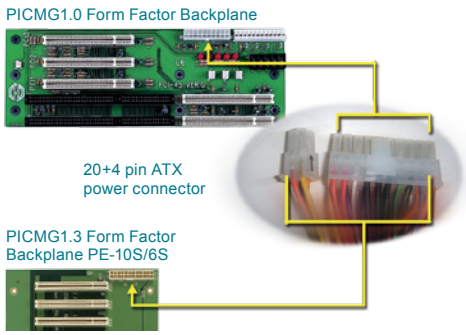
As processors become faster and more highly integrated, more current is required. To reduce power distribution loss, board manufactures are moving from 5V to 12V power distribution. System components that use 12V are continuing to increase in power.

Version 2.0 of Intel's ATX12V Power Supply Design Guide began recommending dual 12V lines for PSUs that can deliver more than 18A at 12V. Why? To abide by safety requirements of UL and EM 60950, which stipulates not more than 240VA on any wires or exposed traces. Intel's PSU Guide calls for a current limiter that keeps current to under 20A on each of the 12V rails: 12V x 20A = 240VA.

What is the safety reason for this 240VA maximum? It's the maximum recommended for an electronic device that a consumer will have reasonable likelihood of access.

The +12V1 (First +12V rail) supplies the 24-pin ATX main power connector & 4-pin Peripheral Power connector, which feeds for the Mother Board & IO devices.

The +12V2 (2nd +12V rail) supplies the AUX12V 4-pin plug, which feeds only the CPU.



PS/2 AC Input ATX Type

ACE-841AP-S

400W

PFC

Input Type	90 ~ 264VAC Full Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
	28A (0.2A min)	33A (4A min)	20A (0.5A min)	0.5A	1A	2A
Efficiency	70%					
Temperature	0 ~ 50˚C (Operating), -20 ~ 80˚C(Storage)					
MTBF(hrs)	100,000					
Output Connector	20+4PIN ATX x1, 4PIN 12V CPU x1, HDD/CDROM x5, FDD x2, SATA x2, Extra +5V(P10) x1					

Ordering Information

Part No.	Description
ACE-841AP-S-RS	400W AC-DC PS/2 ATX Power Supply, with PFC & on/off switch

ACE-840A

400W

Input Type	95 ~ 132VAC,180 ~ 264VAC Auto Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
	28A (0.2A min)	40A (2A min)	15A (0.2A min)	0.3A	0.8A	2A
Efficiency	65%					
Temperature	0 ~ 50˚C (Operating), -20 ~ 65˚C(Storage)					
MTBF(hrs)	100,000					
Output Connector	20PIN ATX x1, 4PIN 12V CPU x1, HDD/CDROM x8, FDD x2, Extra +5V(P10) x1					

Ordering Information

Part No.	Description
ACE-840A-RS	400W AC-DC PS/2 ATX Power Supply, AC select switch

ACE-832AP

300W

PFC

Input Type	90 ~ 264VAC Full Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
	28A (0.3Amin)	30A (0.1A min)	15A	0.3A	0.8A	2A
Efficiency	65%					
Temperature	0 ~ 50˚C (Operating), -20 ~ 80˚C(Storage)					
MTBF(hrs)	50,000					
Output Connector	20PIN ATX x1, 4PIN 12V CPU x1, HDD/CDROM x8, FDD x2, Extra +5V(P10) x1					

Ordering Information

Part No.	Description
ACE-832AP-RS	300W AC-DC PS/2 ATX Power Supply, with PFC
ACE-832AP-S-RS	300W AC-DC PS/2 ATX Power Supply, with PFC & on/off switch

ACE-828A

280W

Input Type	90 ~ 130VAC,180 ~ 260VAC Auto Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
	8A	25A (2A min)	10A (0.1A min)	0.5A	0.5A	0.72A
Efficiency	65%					
Temperature	Operating : -20 ~ 70˚C (40 ~ 70˚C derating curve) Storage : -40 ~ 75˚C					
MTBF(hrs)	110,000					
Output Connector	20PIN ATX x1, HDD/CDROM x5, FDD x2					

Ordering Information

Part No.	Description
ACE-828A-RS	280W AC-DC PS/2 ATX Power Supply

ACE-828M

280W

Medical

Ordering Information

Part No.	Description
ACE-828M-RS	280W AC-DC PS/2 ATX Power Supply, meet Medical standard

Specifications

Input Type	90 ~ 130VAC,180 ~ 260VAC Auto Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
	8A	25A (2A min)	10A (0.1A min)	0.5A	0.5A	0.72A
Efficiency	65%					
Temperature	Operating : -20 ~ 70˚C (40 ~ 70˚C derating curve) Storage : -40 ~ 75˚C					
MTBF(hrs)	170,000					
Output Connector	20PIN ATX x1, HDD/CDROM x5, FDD x2					

1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

ACE-T140A

400 W PS/2 Type AT Power Supply

400W

PFC CB c UL us

Specifications

Input Type	95~264VAC Full Range			
Output Voltage	+5 V	+12 V	-5 V	-12 V
	42.0 A (2.0 A min.)	15 A (1.0 A min.)	0.3 A (0 A min.)	0.8 A (0 A min.)
Efficiency	75 %			
Temperature	Operating: 0 ˚C~50 ˚C, Storage: -20 ˚C~80 ˚C			
MTBF	100,000 hr			
Output Connector	p8+p9 x 1, HDD x 6, FDD x 2			
Dimensions	140 mm x 150 mm x 86 mm			

Ordering Information

Part No.	Description
ACE-T140A-RS	400 W AC-DC PS2 2U AT Power Supply, with PFC

ACE-925AP-U

250 W PS/2 Type AT Power Supply

250W

High relibility magnetic bearing cooling system Featuress low noise, high Op temperature and longer MTBF

PFC CB c UL us

Specifications

Input	Voltage	90 ~ 265 VAC Full Range			
	Frequency	47 ~ 63 Hz			
Output	Voltage	+5 V	+12 V	-5 V	-12 V
	Max. load	22 A	11 A	0.5 A	0.7 A
General	MTBF	100,000 hours			
	Temperature	Operating : 0 ˚C ~50 ˚C Storage : -25 ˚C ~ 70 ˚C			
	Dimensions	140 x 150 x 86 (mm)			
	Output Connector	P8+P9x1, FDDx2, HDD/CDROMx4, SATAx2			

Ordering Information

Part No.	Description
ACE-925AP-U-RS	250 W AC-DC PS/2 AT Power Supply, with PFC

ACE-935AL

300 W PS/2 Type AT Power Supply

300W

PFC c UL us

Specifications

Input Type	85 ~ 140 VAC,170 ~ 270 VAC Auto Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		40 A (3A min)	8 A (0.1A min)	0.3 A	0.7 A	
Efficiency	68 %					
Temperature	0 ˚C ~ 50 ˚C (Operating), -40 ˚C ~ 75 ˚C(Storage)					
MTBF(hrs)	100,000					
Output Connector	P8+P9 x1, Extra +5V(P10) x1, HDD/CDROM x5, FDD x2					

Ordering Information

Part No.	Description
ACE-935AL-RS	300 W AC-DC PS/2 AT Power Supply, AC select switch

PS/2 AC Input AT Type

ACE-932A

300W

Specifications

Input Type	85 ~ 130 VAC,180 ~ 265 VAC Auto Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		33A (3 A min)	8A (0.2 A min)	0.5 A	3 A	
Efficiency	68 %					
Temperature	Operating : 0 ˚C ~ 50 ˚C (50 ˚C ~ 70 ˚C derating curve) Storage : -40 ˚C~ 75 ˚C					
MTBF(hrs)	120,000					
Output Connector	P8+P9 x1, Extra +5V(P10) x1, HDD/CDROM x4, FDD x2					

Ordering Information

Part No.	Description
ACE-932A-RS	300 W AC-DC PS/2 AT Power Supply

ACE-925A/AP

200W

PFC

Specifications

Input Type	85 ~ 265VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		22 A (1A min)	7 A (0.1A min)	0.5 A	0.7 A	
Efficiency	68 %					
Temperature	0 ˚C ~ 50 ˚C (Operating), -40 ˚C ~ 75˚C(Storage)					
MTBF(hrs)	130,000 (ACE-925A), 140,000 (ACE-925AP)					
Output Connector	P8+P9 x1, HDD/CDROM x5, FDD x2					

Ordering Information

Part No.	Description
ACE-925A-RS	200 W AC-DC PS/2 AT Power Supply
ACE-925AP-RS	200 W AC-DC PS/2 AT Power Supply, with PFC

ACE-925M

200W

Medical

Specifications

Input Type	90 ~ 264VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		22 A (4A min)	7 A (1A min)	0.5 A	0.5 A	
Efficiency	65 %					
Temperature	Operating : 0 ˚C~ 70 ˚C (40 ˚C ~ 70 ˚C derating curve) Storage : -40 ˚C~ 75 ˚C					
MTBF(hrs)	110,000					
Output Connector	P8+P9 x1, HDD/CDROM x5, FDD x2					

Ordering Information

Part No.	Description
ACE-925M-RS	200 W AC-DC PS/2 AT Power Supply, meet Medical standard

ACE-920A

150W

Specifications

Input Type	85 ~ 265VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		20 A (1A min)	4 A (0.1A min)	0.5 A	0.5 A	
Efficiency	68 %					
Temperature	0 ~ 50 ˚C (Operating), -40 ˚C~ 75 ˚C(Storage)					
MTBF(hrs)	160,000					
Output Connector	P8+P9 x1, HDD/CDROM x3, FDD x2					

Ordering Information

Part No.	Description
ACE-920A-RS	150 W AC-DC PS/2 AT Power Supply

ACE-828V/C/T

PS/2 12V/24V/-48V DC Input ATX Type

ACE-828V

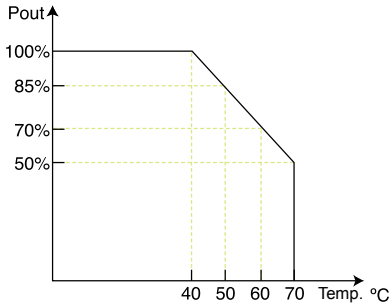
ACE-828C

ACE-828T

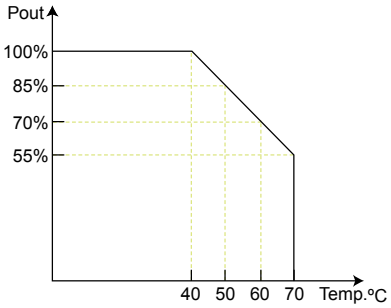
Specifications

Product			ACE-828V	ACE-828C	ACE-828T
Input	Input Type		9 ~ 16 VDC	18 ~ 32 VDC	-40 ~ -72 VDC
	Input Current		50 A(RMS)@12VDC	20 A(RMS)@24VDC	10 A(RMS)@-48VDC
	Inrush Current		-	5A Max for 24VDC	5A Max for -48VDC
Output	Voltage	+3.3 V	8 A	8 A	8 A
		+5 V	25 A (2 A min)	25 A (2 A min)	25 A (2 A min)
		+12 V	8 A (0.1 min)	7 A (0.1 min)	7 A (0.1 min)
		-5 V	0.5 A	0.5 A	0.5 A
		-12 V	1 A	1 A	1 A
		+5 Vsb	0.72 A	0.72 A	0.72 A
		Ripple & Noise	+5 V, +3.3 V output are less than 50mV +12 V, -5 V, -12 V, +5 Vsb output are less than 100mV		
	Overvoltage protection		+5 V: 5.7 V ~ 7.0 V		
	Short Circuit protection		Yes		
	Overload protection		Yes		
Efficiency			65 %		
Temperature			-20 ˚C ~ 70 ˚C (Operating), -40 ˚C ~ 75 ˚C(Storage)		
MTBF(hrs)			97,000	120,000	110,000
Power good signal			Turn on delay time 100 ms to 500 ms		
Output Connector			ACE-828V: 20PIN ATX x1, 4PIN 12V CPU x1, HDD/CDROM x3, FDD x2, Extra +5V(P10) x1 ACE-828C/T: 20PIN ATX x1, HDD/CDROM x5, FDD x2		

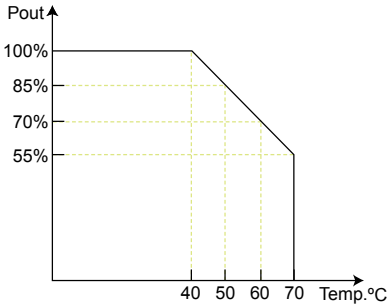
ACE-828V



ACE-828C



ACE-828T



Ordering Information

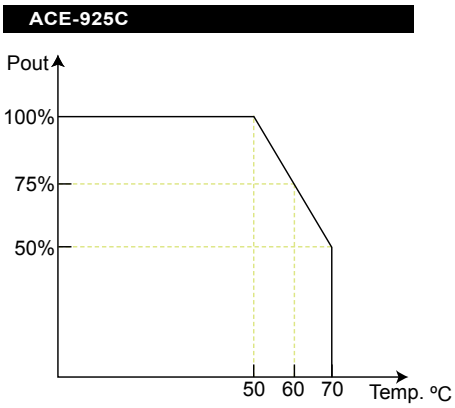
Part No.	Description
ACE-828V-RS	250 W 12V DC input PS/2 Type ATX Power Supply
ACE-828C-RS	250 W 24V DC input PS/2 Type ATX Power Supply
ACE-828T-RS	250 W -48V DC input PS/2 Type ATX Power Supply

PS/2 DC Input AT Type

ACE-925C DC 24 V

220W

Input Type	19 ~ 30VDC					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		25 A (4 A min)	6 A	1 A	2 A	
Efficiency	65 %					
Temperature	0 ˚C ~ 50 ˚C (Operating), -40 ˚C ~ 75 ˚C (Storage)					
MTBF(hrs)	200,000					
Output Connector	P8+P9 x1, HDD/CDROM x3, FDD x2					



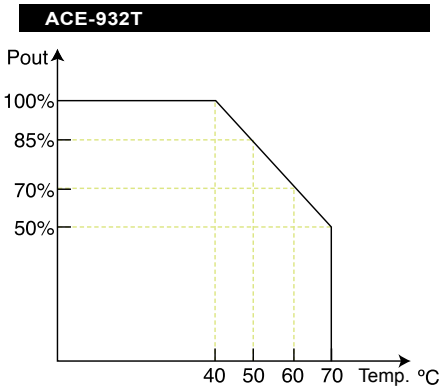
Ordering Information

Part No.	Description
ACE-925C-RS	220 W 24 V DC input PS/2 Type AT Power Supply

ACE-932T DC -48V

300W

Input Type	-40 ~ -70 VDC					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		33 A (1A min)	8 A	0.5 A	3 A	
Efficiency	70 %					
Temperature	-20 ˚C ~ 70 ˚C (Operating), -40 ˚C ~ 75 ˚C(Storage)					
MTBF(hrs)	140,000					
Output Connector	P8+P9 x1, Extra +5V(P10) x1, HDD/CDROM x4, FDD x2					



Ordering Information

Part No.	Description
ACE-932T-RS	300W -48 V DC input PS/2 Type AT Power Supply

Optional Power Supply Cables

Product	Cable Type				
	Optional 1	Optional 2	Optional 3	Optional 4	Optional 5
ACE-643	CB-643EC	CB-643EB	CB-643BP	CB-643P8P9	
ACE-663	CB-643EC	CB-643EB	CB-643BP	CB-643P8P9	
ACE-890	CB-643EC	CB-643EB	CB-890BP	CB-890P8P9	
ACE-715		CB-643EB	CB-717BP		
ACE-717		CB-643EB	CB-717BP		
ACE-704	CB-704EC	CB-704EB	CB-704BP	CB-704P8P9	
ACE-706	CB-704EC	CB-704EB	CB-704BP	CB-704P8P9	
ACE-709		CB-709EB	CB-709BP		
ACE-713	CB-643EC	CB-709EB	CB-709BP		
ACE-710	CB-870EC	CB-710EB	CB-710BP		
ACE-716	CB-643EC	CB-716EB	CB-716BP	CB-716P8P9	
ACE-723	CB-643EC	CB-716EB	CB-716BP	CB-716P8P9	
ACE-855	CB-855EC	CB-855EB	CB-855BP	CB-855P8P9	
ACE-870	CB-870EC	CB-870EB	CB-870BP	CB-870P8P9	
All ATX Power					CB-ATXP8P9

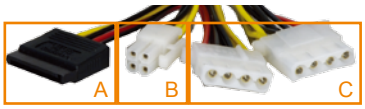
Optional 1 AC Input Solution

20 cm AC input cable with I/O connector and fuse

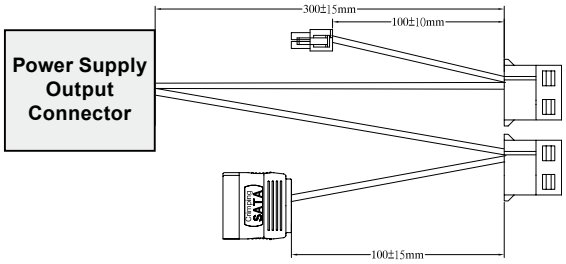
FUSE

Optional 2 Embedded Solution

30 cm cable with SATA, 12 V and IDE device connector

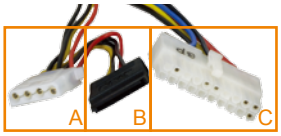


A. SATA Device conntector
B. 12V Only conntector
C. IDE Device conntector

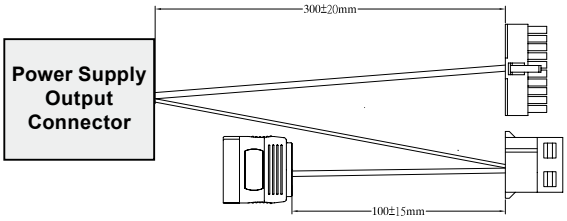


Optional 3 ATX Backplane Solution

30 cm cable with IDE, ATX and SATA device connector

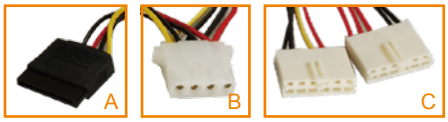


A. IDE device connector
B. SATA device connector
C. ATX backplane connector

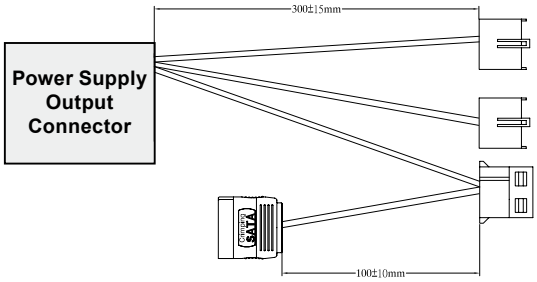


Optional 4 AT P8P9 Backplane Solution

30 cm cable with SATA, IDE and P8P9 AT device connector

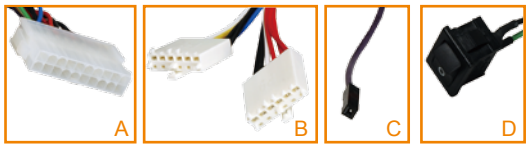


A. SATA device connector
B. IDE device connector
C. P8P9 AT connector

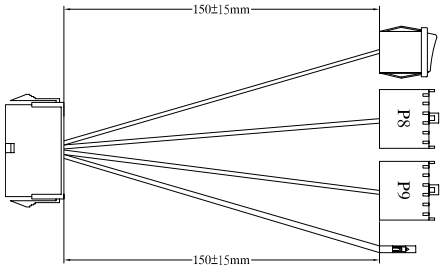


Optional 5 AT Backplane with ATX Power Supply Solution

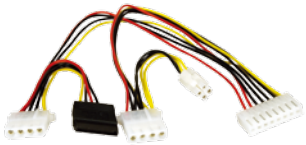
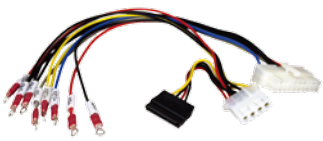
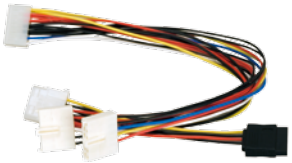
15 cm cable with ATX, P8P9 and 5VSB connector and on/off switch



A. ATX backplane connector
B. P8P9 AT connector
C. 5Vsb connector
D. On/off switch



Optional Power Supply Cables

CB-643EC-RS	CB-704EC-RS	CB-855EC-RS	CB-870EC-RS
CB-643EB-RS	**CB-704EB-RS**	**CB-709EB-RS**	**CB-710EB-RS**
CB-870EB-RS	**CB-716EB-RS**	**CB-855EB-RS**	**CB-ATXP8P9-RS**
			
CB-643BP-RS	**CB-870BP-RS**	**CB-855BP-RS**	**CB-710BP-RS**
CB-717BP-RS	**CB-709BP-RS**	**CB-704BP-RS**	**CB-890BP-RS**
CB-716BP-RS	**CB-643P8P9**	**CB-890P8P9**	**CB-704P8P9**
			
CB-716P8P9	**CB-855P8P9**	**CB-870P8P9**	
			

1U/2U Type Selection Guide

1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

Safety (ITE Standard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Standard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

1U AC Input

Products	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-A627A	270 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	16 A (0.5A min)	18A (0.5A min)	V1:16 A (1A) V2:10A (1A)		0.8A	2.5A	
	ACE-4525AP	250 W	ATX	Active	90 ~ 265 VAC	47 ~ 63 HZ	16 A (0.5A min)	16 A (0.5A min)	V1:16 A(0.5A min) V2:16 A(0.5A min)		0.5 A (0A min)	2.5 A (0.1 A min)	
	ACE-A622A	220 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	14 A (0.5 A min)	16 A (0.5A min)	V1:16 A (1A) V2:10 A (1A)		0.8 A	2.5 A	
	Medical ACE-720APM	200 W	ATX	Active	85 ~ 264 VAC	47 ~ 63 HZ		20 A (2A min)	9 A		0.5 A	0.5 A	
	ACE-A618A	180 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	14 A (0.3 A min)	16 A (0.3 A min)	14 A (1.5 A min)		0.5 A	2 A	
	Medical ACE-818APM	180 W	ATX	Active	90 ~ 265 VAC	47 ~ 63 HZ	16.8 A (0.3 A min)	12 A (0.5 A min)	12 A (1.5A min)		0.8 A	2 A	
	ACE-A615A	150 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	10 A (0.3 A min)	13 A (0.3A min)	10A (1A min)		0.5 A	2 A	
	ACE-4518AP	180 W	ATX	Active	90 ~ 265 VAC	47 ~ 63 HZ	16.8 A (0.3 A min)	12 A (0.3 A min)	10 A (1.5 A min)		0.8 A	2 A	
	ACE-816A	150 W	ATX	-	95 ~ 132 VAC 180 ~ 264 VAC	47 ~ 63 HZ	16 A (0.2 A min)	15 A (1 A min)	12 A (0.2A min)		0.3 A	2 A	
	ACE-916A	150 W	AT	-	90 ~ 132 VAC 180 ~ 264 VAC	47 ~ 63 HZ		15 A (1 A min)	10 A (0.2A min)		0.3 A		
	ACE-916AP	150 W	AT	Active	90 ~ 264 VAC	47 ~ 63 HZ		16 A (1 A min)	6 A (0.5 A min)		0.3 A		
	ACE-716AP-U	150 W	AT	Active	90 ~ 264 VAC	47 ~ 63 HZ		18 A (2 A min)	4 A (0.5 A min)	0.5 A	1 A		
	ACE-716A	150 W	AT	-	85 ~ 135 VAC 180 ~ 265 VAC	47 ~ 440 HZ		18 A (1 A min)	4 A	0.5 A	1 A		
	ACE-716AP	150 W	AT	Active	85 ~ 265 VAC	47 ~ 440 HZ		18 A (1 A min)	4 A	0.5 A	1 A		
	ACE-540A	40 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ							1.7 A

1U/2U Type Selection Guide

Meets ITE (IEC60950) Standard: V ; Meets Medical (IEC60601) Standard : M

1U AC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Products
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
80 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	150 x 81 x 40 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V		V	V	V	190 x 100 x 40.5 (mm)	
80 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	150 x 81 x 40 (mm)	
82 %	0 °C ~ 70 °C	-20 °C ~ 85 °C	VM	VM		M	V			V		198 x 97 x 40.5 (mm)	
68 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	150 x 81 x 40 (mm)	
68 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	VM	VM			V	VDE	V	VM	VM	190 x 81.5 x 40.5 (mm)	
68 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	150 x 81 x 40 (mm)	
68 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V		V	V	V	150 x 81.5 x 40.5 (mm)	
72 %	0 °C ~ 50 °C	-20 °C ~ 80 °C		V	V						V	150 x 81.5 x 40.5 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 80 °C		V	V							150 x 81.5 x 40.5 (mm)	
68 %	0 °C ~ 35 °C	-20 °C ~ 80 °C	V	V	V	V	V	NEMKO	V	V	V	150 x 81.5 x 40.5 (mm)	
75 %	0 °C ~ 70 °C	-30 °C ~ 70 °C	V	V		V	V			V	V	198 x 97 x 40.5 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V								198 x 97 x 40.5 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V		V				V		198 x 97 x 40.5 (mm)	
70 %	-20 °C ~ 70 °C	-40 °C ~ 85 °C										161 x 100 x 40 (mm)	

1U/2U Type Selection Guide

Safety (ITE Stardard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Stardard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

Products	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24V
1U DC Input													
	ACE-715VX	157 W	ATX	-	12 VDC (9 ~ 18 VDC)	-	6 A	16 A (1A min)	10 A (1A min)		1 A	1.5 A	
	ACE-4520C	200 W	ATX	-	24 VDC (18 ~ 36 VDC)	-	12 A	12 A (1A min)	15.4 A (0.5A min)		0.5 A	2 A	
	ACE-717CX	170 W	ATX	-	24 VDC (19 ~ 32 VDC)	-	6 A	8 A (1A min)	8 A (1A min)		0.5 A	1 A	
	ACE-815C	100 W	ATX	-	24 VDC (18 ~ 32 VDC)	-	4 A	13 A	2.5 A		0.3 A	1.5 A	
	ACE-830CU1	300W	ATX	-	24 VDC (19 ~ 36 VDC)	-	20 A	25 A (3A min)	22 A (1A min)	0.8 A	1 A	1.5 A	
	ACE-815T	150 W	ATX	-	48 VDC (36 ~ 72 VDC)	-	10 A	14 A	4.2 A	0.3 A	0.3 A	2 A	
	ACE-716C	150 W	AT	-	24 VDC (19 ~ 30 VDC)	-		18 A (2A min)	4 A	0.5 A	1 A		
2U AC Input													
	ACE-4535AP	360 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	5 A (0.3A min)	8 A (1A min)	12 A (0.5A min)		0.5 A	2 A	6 A
	ACE-4530AP	300 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 HZ	20 A (1A min)	35 A (3A min)	16 A (2A min)	0.5 A (0.05 A min)	1 A (0.05A min)	2 A (0.1A min)	
	Medical **ACE-728APM**	280 W	ATX	Active	85 ~ 264 VAC	47 ~ 63 HZ		28 A (2A min)	10 A (0.5A min)		1 A	1 A	
	ACE-D825A	252 W	AT	Active	90 ~ 264 VAC	47 ~ 63 HZ			15 A (0.1A min)				8 A
	ACE-723A	200 W	AT	-	85 ~ 135 VAC 180 ~ 265 VAC	47 ~ 440 HZ		22 A (3A min)	6 A	1 A	1 A		
	ACE-723B	200 W	AT	-	85 ~ 135 VAC 180 ~ 265 VAC	47 ~ 440 HZ		21 A (3A min)	5 A		1 A		1 A
2U DC Input													
	ACE-723C	200 W	AT	-	24 VDC (19 ~ 30 VDC)	-		22 A (3A min)	6 A	1 A	1 A		
	ACE-723T	200 W	AT	-	-48 VDC (-36 ~ -72 VDC)	-		22 A (3A min)	6 A	1 A	1 A		

1U/2U Type Selection Guide

Meet ITE (IEC60950) Standard: V ; Meet Medical (IEC60601) Standard : M

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
1U DC Input													
70 %	0 °C ~ 70 °C	-40 °C ~ 75 °C	V	V		V	V			V		198 x 97 x 39 (mm)	
78 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V	NEMKO		V	V	150 x 81.5 x 40.5 (mm)	
75 %	0 °C ~ 70 °C	-40 °C ~ 75 °C	V	V		V	V			V		198 x 97 x 39 (mm)	
65 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V	V	V		NEMKO	V	V	V	150 x 81.5 x 40.5 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V		220 x 100 x40.5 (mm)	
65%	0°C ~ 50°C	-20°C ~ 80°C	V	V	V	V		NEMKO	V	V	V	150 x 81.5 x 40.5 (mm)	
70%	-20°C ~ 70°C	-20°C ~ 85°C		V		V				V		198 x 97 x 40.5 (mm)	
2U AC Input													
75 %	0 °C ~ 50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	240 x 100 x 70 (mm)	
63 %	0 °C ~ 50 °C	-20 °C ~ 80 °C		V		V	V			V		200 x 100 x 70 (mm)	
82 %	0 °C ~ 70 °C	-20 °C ~ 85 °C	VM	VM		VM	V			V		203 x 112 x 51 (mm)	
80 %	0 °C ~50 °C	-20 °C ~ 80 °C	V	V		V	V			V	V	140 x 150 x 86 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V								203 x 112 x 51 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V								203 x 112 x 51 (mm)	
2U DC Input													
70 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V						V		203 x 112 x 51 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C		V						V		203 x 112 x 51 (mm)	

ACE-A627A

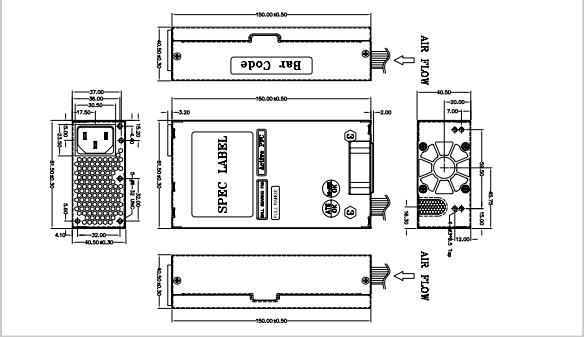
270 W 1U Type ATX Power Supply

Meet 80 Plus

Specifications

Product	ACE-A627A-RS					
Input Type	90~264 VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	+12 V 2	-12 V	+5 Vsb
	16 A (0.5 A min.)	18 A (0.5 A min.)	16 A (1 A min.)	10 A (1 A min.)	0.8 A (0 A min.)	2.5 A (0 A min.)
Efficiency	80 %					
Temperature	Operating : 0 °C ~ 50 °C Storage : -20 °C ~ 80 °C					
MTBF(hrs)	100,000 hr					
Output Connector	20-pin ATX, 4-pin 12 V, FDD and 3 x HDD					
Dimensions	150 x 81.5 x 40.5 (mm)					

Dimensions



Ordering Information

Part No.	Description
ACE-A627A-RS	270W AC-DC 1U flex ATX Power Supply , with PFC

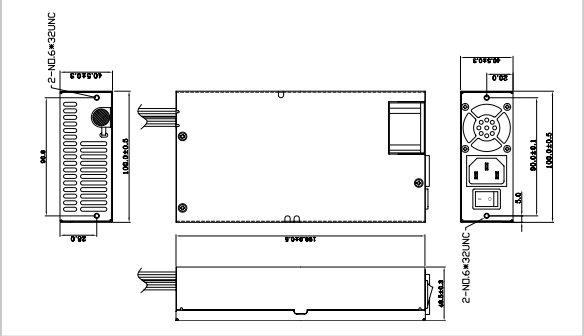
ACE-4525AP

250 W 1U Type ATX Power Supply

Specifications

Input Type	90~265 V AC Full Range Input					
Output Voltage	+3.3 V	+5 V	+12 V	+12 V 2	-12 V	+5 Vsb
	16 A (0.5 A min.)	16 A (0.5 A min.)	16 A (0.5 A min.)	16 A (0.5 A min.)	0.5 A (0 A min.)	2.5 A (0.1 A min.)
Efficiency	70 %					
Temperature	Operating : 0 °C ~50 °C Storage : -20 °C ~ 80 °C					
MTBF(hrs)	100,000 hours on max load at +25 °C					
Output Connector	20+4-pin ATX, 4-pin 12 V, 4 x HDD, 2 x SATA and 1 x FDD					
Dimensions	190 x 100 x 40.5 (mm)					

Dimensions



Ordering Information

Part No.	Description
ACE-4525AP-RS	250W AC-DC 1U ATX Power Supply, with PFC

1U AC Input ATX Type

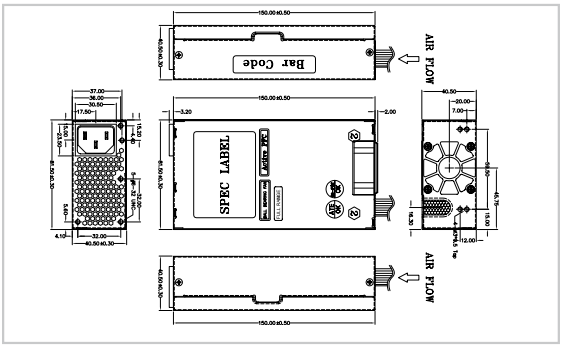
ACE-A622A

PFC Meet 80 Plus

Product	ACE-A622A-RS					
Input Type	90~264 VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	+12 V 2	-12 V	+5 Vsb
	14 A (0.5 A min.)	16 A (0.5 A min.)	16 A (1 A min.)	10 A (1 A min.)	0.8 A (0 A min.)	2.5 A (0 A min.)
Efficiency	80 %					
Temperature	Operating : 0 °C~ 50 °C, Storage : -20 °C~ 80 °C					
MTBF(hrs)	100,000 hr					
Output Connector	20-pin ATX, 4-pin 12 V, 3 x HDD and 1 x FDD					
Dimensions	150 x 81.5 x 40.5 (mm)					

Dimensions

220W



Ordering Information

Part No.	Description
ACE-A622A-RS	220W AC-DC 1U flex ATX Power Supply , with PFC

ACE-720APM

Medical

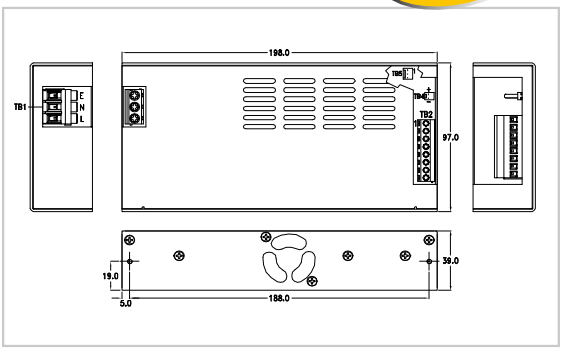
+5Vsb & PS On cable

PFC

Input Type	85 ~ 264 VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		20 A (2 A min)	9 A		0.5 A	0.5 A
Efficiency	82 %					
Temperature	Operating : 0 °C~ 70 °C (50 °C~ 70 °C derating curve) Storage : -20 °C~ 85 °C					
MTBF(hrs)	100,000					
Output Connector	+5Vsb & PS on cable					
Dimensions	198 x 97 x 39 (mm)					

Dimensions

220W



Ordering Information

Part No.	Description
ACE-720APM-RS	200W AC-DC 1U ATX Power Supply with PFC, meet Medical standard

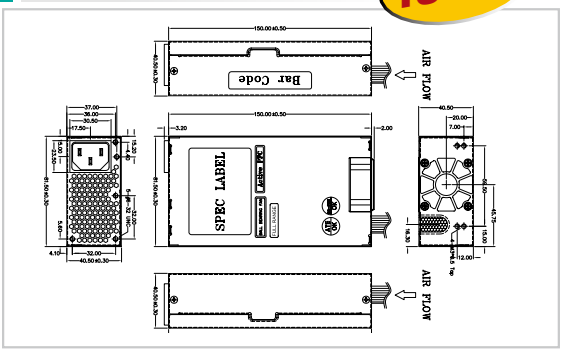
ACE-A618A

PFC

Product	ACE-A618A-RS				
Input Type	90~264 VAC Full Range				
Output Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb
	14 A (0.3 A min.)	16 A (0.3 A min.)	14 A (1.5 A min.)	0.5 A (0 A min.)	2.0 A (0 A min.)
Efficiency	68 %				
Temperature	Operating : 0 °C~ 50 °C Storage : -20 °C~ 80 °C				
MTBF(hrs)	100,000 hr				
Output Connector	20-pin ATX x1, 4-pin 12V CPU x 1, HDD x 3, FDD x 1				
Dimensions	150 x 81.5 x 40.5 (mm)				

Dimensions

180W



Ordering Information

Part No.	Description
ACE-A618A-RS	180WAC-DC 1U flex ATX Power Supply , with PFC

1U AC Input ATX Power Supply

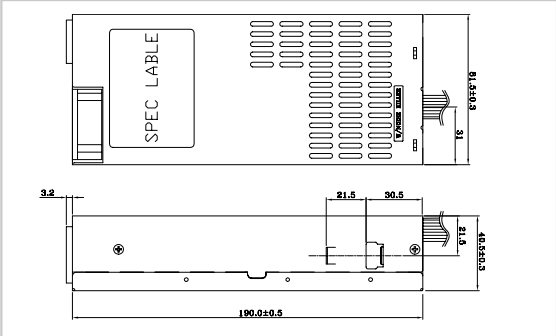
ACE-818APM

Medical

180W

PFC

Dimensions



Input Type	90 ~ 265 VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
	16.8 A (0.3 A min)	12 A (0.5 A min)	12 A (1.5 A min)		0.8 A	2 A
Efficiency	68 %					
Temperature	Operating : 0 ˚C~ 50 ˚C , Storage : -20 ˚C~ 80 ˚C					
MTBF(hrs)	100,000					
Output Connector	20-pin ATX, 4-pin 12 V CPU, 2 x FDD and 3 x HDD					
Dimensions	190 x 81.5 x 40.5 (mm)					

Ordering Information

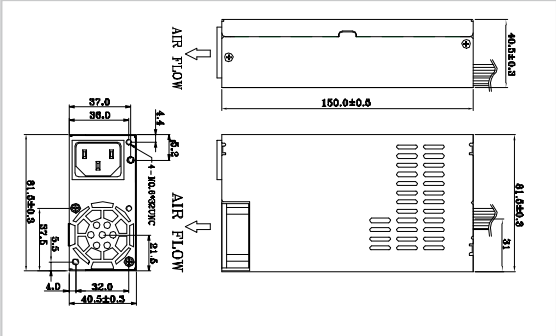
Part No.	Description
ACE-818AP-RS	180W AC-DC 1U ATX Power Supply with PFC, meet Medical standard

ACE-4518AP/816A

180W

PFC

Dimensions



Input Type	90 ~ 265VAC Full Range (ACE-4518AP) 95 ~ 132VAC or 181 ~ 264VAC (ACE-816A)					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
ACE-4518AP	16.8A (0.3A min)	12A (0.3A min)	10A (1.5A min)		0.8A	2A
ACE-816A	16A (0.2A min)	15A (1A min)	12A (0.2A min)		0.3A	2A
Efficiency	72% (ACE-816A), 68% (ACE-4518AP)					
Temperature	Operating : 0 °C~ 50 °C, Storage : -20 °C~ 80 °C					
MTBF(hrs)	100,000					
Output Connector	ACE-4518AP:20-pin ATX, 4-pin 12 V CPU, FDD and 3 x HDD ACE-816A:20-pin ATX, FDD and 3 x HDD					
Dimensions	150 x 81.5 x 40.5 (mm)					

Ordering Information

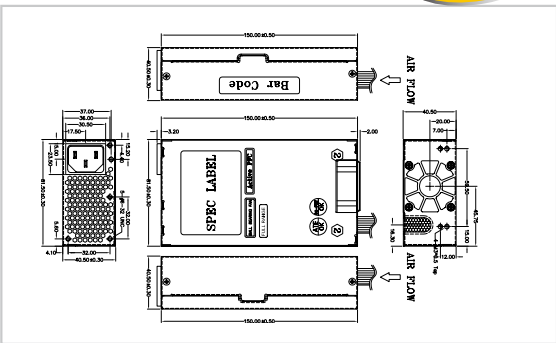
Part No.	Description
ACE-4518AP-RS	180W AC-DC 1U ATX Power Supply, with PFC
ACE-816A-RS	150W AC-DC 1U ATX Power Supply

ACE-A615A

150W

PFC

Dimensions



Product	ACE-A615A-RS				
Input Type	90~264 VAC Full Range				
Output Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb
	10 A (0.3 A min.)	13 A (0.3 A min.)	10 A (1 A min.)	0.5 A (0 A min.)	2.0 A (0 A min.)
Efficiency	68 %				
Temperature	Operating : 0 °C~ 50 °C , Storage : -20 °C~ 80 °C				
MTBF(hrs)	100,000 hr				
Output Connector	20-pin ATX, 4-pin 12 V CPU, FDD and 3 x HDD				
Dimensions	150 x 81.5 x 40.5 (mm)				

Ordering Information

Part No.	Description
ACE-A615A-RS	150W AC-DC 1U flex ATX Power Supply , with PFC

ACE-716AP-U

150 W 1U Type AT Power Supply

PFC

High reliability magnetic bearing cooling system. Low noise, extended MTBF and high temperature tolerance.

Features

1. Build active PFC
2. Meets ITE safety standards
3. 1U height for rackmount systems

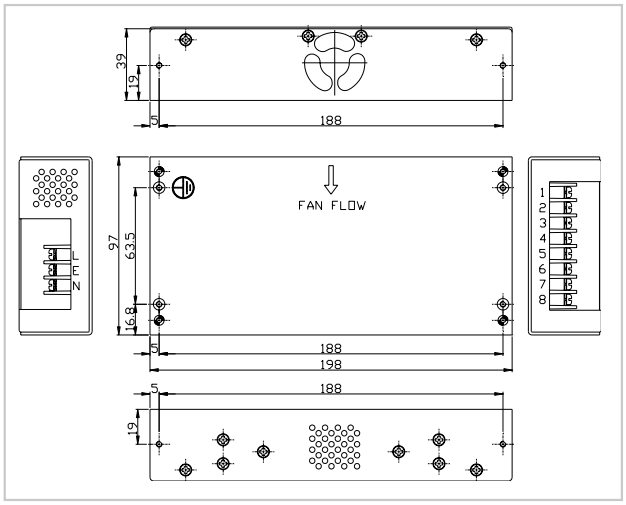
Specifications

Input Voltage	90 ~ 264 VAC Full Range			
Input Frequency	47 ~ 63 Hz			
Input Current	3 A (RMS) for 115 VAC			
	1.5 A (RMS) for 230 VAC			
Inrush Current	25 A MAX. for 115 VAC			
	50 A MAX. for 230 VAC			
Overvoltage	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	2 A	18 A	100mV
	+12 V	0.5 A	4 A	100mV
	-5 V	0 A	0.5 A	100mV
	-12 V	0 A	1 A	100mV
Over Voltage Protection	+5 V	5.7 V ~ 7.0 V		
Short Circuit Protection	short circuit all the output			
Hold Up Time	20ms min.			
MTBF	100,000 hours on max load at +50˚C			
Operating Temperature	0 °C ~ 70 °C (50 °C~ 70 °C derating curve)			
Storage Temperature	-30 °C ~ 70 °C			
Efficiency	75 %			
Dimensions	198 x 97 x 40.5 (mm)			

Ordering Information

Part No.	Description
ACE-716AP-U-RS	150 W 1U AC-DC AT Power Supply, with PFC

Dimensions



AC terminal block

Pin1	Pin2	Pin3
L	E	N

Output terminal block

Pin 1, 2	Pin 3, 4	Pin 5	Pin 6	Pin7	Pin8
5V	GND	-5V	-12V	GND	+12V

Optional 1	Embedded Solution
	PN: CB-716EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-716BP-RS 30 cm DC cable to backplane with 20-pin ATX, HDD, SATA and HDD connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-716P8P9-RS 30 cm DC cable AT power to P8P9 with HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-643EC-RS 20 cm AC input cable with I/O connector and fuse

1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

1U AC Input AT Type

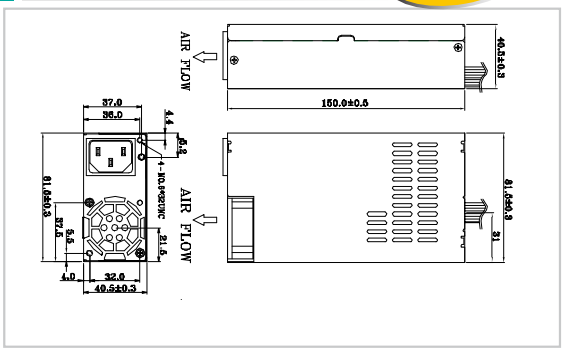
ACE-916A/AP

PFC

Input Type	90 ~ 132VAC, 180 ~ 264VAC Auto Range (ACE-916A) 90 ~ 264VAC Full Range (ACE-916AP)				
Output Voltage	+5V	+12V	-5V	-12V	+24V
ACE-916A	15A (1A min)	10A (0.2A min)		0.3A	
ACE-916AP	16A (1A min)	6A (0.5A min)		0.3A	
Efficiency	70% (ACE-916A), 68% (ACE-916AP)				
Temperature	0°C ~ 50°C (Operating), -20°C~ 80°C (Storage)				
MTBF(hrs)	100,000				
Output Connector	P8P9, FDD and 3 x HDD				
Dimensions	150 x 81.5 x 40.5 mm				

Dimensions

150W



Ordering Information

Part No.	Description
ACE-916A-RS	150W AC-DC AT Power Supply
ACE-916AP-RS	150W AC-DC AT Power Supply, with PFC

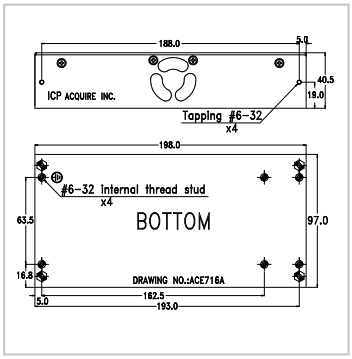
ACE-716A/AP

PFC

Input Type	85 ~ 135VAC , 180 ~ 265VAC Auto Range (ACE-716A) 85 ~ 265VAC Full Range (ACE-716AP)			
Output Voltage	+5V	+12V	-5V	-12V
	18A (1A min)	4A	0.5A	1A
Efficiency	75%			
Temperature	Operating : -20°C ~ 70°C (50°C ~ 70°C derating curve) Storage : -20°C ~ 85°C			
MTBF(hrs)	149,000			
Output Connector	Optional cable			
Dimensions	198 x 97 x 40.5 mm			

Dimensions

150W



Optional 1	Embedded Solution
	PN: CB-716EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-716BP-RS 30 cm DC cable to backplane with 20-pin ATX, HDD, SATA and HDD connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-716P8P9-RS 30 cm DC cable AT power to P8P9 with HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-643EC-RS 20 cm AC input cable with I/O connector and fuse

Ordering Information

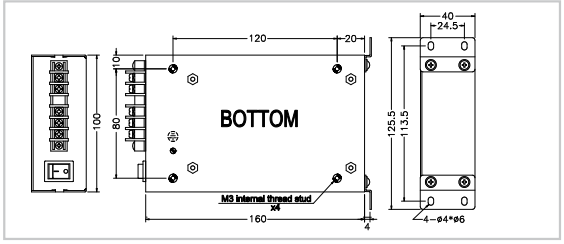
Part No.	Description
ACE-716A-RS	150W AC-DC AT Power Supply
ACE-716AP-RS	150W AC-DC AT Power Supply, with PFC

ACE-540A

Input Type	85 ~ 264VAC Full Range				
Output Voltage	+5V	+12V	-5V	-12V	+24V
					1.7A
Efficiency	70%				
Temperature	Operating : -20°C ~ 70°C (50°C ~ 70°C derating curve) Storage : -40°C ~ 85°C				
MTBF(hrs)	370,000				
Output Connector	N/A				
Dimensions	161 x 100 x 40 mm				

Dimensions

40W



Ordering Information

Part No.	Description
ACE-540A-RS	40W AC-DC AT Power Supply, only output +24V

ACE-4520C/T/V

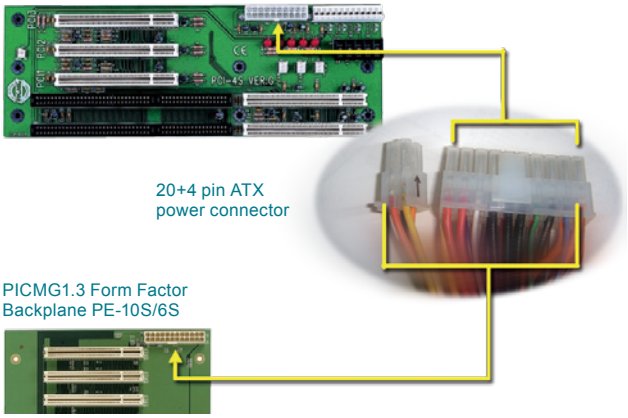
200 W 24V/48V/12V DC input 1U ATX Power Supply

High power capacity 200W in 1U size !!
Meets ATX revision 2.0 with 20+4-pin ATX power and SATAn

Features

1. High efficiency
2. Low ripple & noise
3. Output overvoltage protection
4. Short circuit protection on all output
5. 100% burn-in under high ambient temperature (50°C)
6. Vacuum-impregnated transformer
7. MTBF: 100K hours at 25°C
8. 100% Hi-pot tested
9. Line input fuse protection

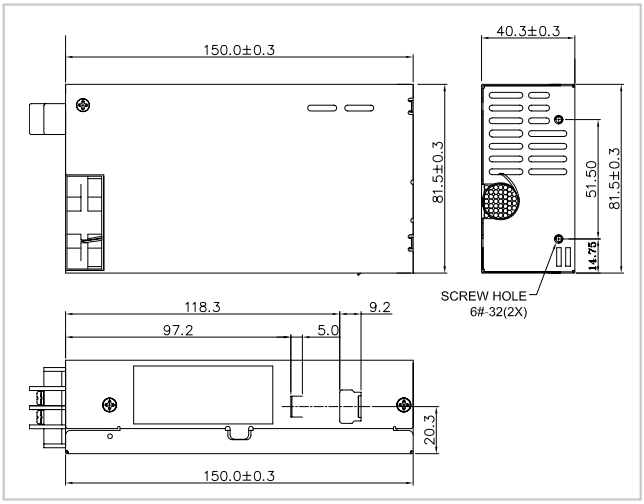
PICMG1.0 Form Factor Backplane



Specifications

Input	**Voltage**	ACE-4520C : 18 ~ 36 VDC Input ACE-4520T : 36 ~ 72 VDC Input ACT-4520V : 9 ~ 18 VDC Input		
	Input Current	ACE-4520C : 15 A(RMS) @ -24 VDC ACE-4520T : 7.5 A(RMS) @ -48 VDC ACT-4520V : 30 A(RMS) @ -12 VDC		
	Inrush Current	ACE-4520C : 100 A Max for -24 VDC ACE-4520T : 100 A Max for -48 VDC ACT-4520V : 100 A Max for -12 VDC		
Output	**Voltage**	**Min.load**	**Max.load**	**Ripple & Noise**
	+5 V	1 A	12 A	50 mV P-P
	+12 V	0.5 A	15.4 A	120 mV P-P
	-12 V	0 A	0.5 A	120 mV P-P
	+3.3 V	0 A	12 A	50 mV P-P
	+5 Vsb	0 A	2 A	50 mV P-P
	+3.3V, +5V, +12V total current not exceed 184W			
	Overvoltage protection	+5 V output 5.7 V ~ 6.5 V		
		+12 V output 13.1 V ~ 14.5 V		
		+3.3 V output 3.7 V ~ 4.1 V		
	Over Circuit protection	+5 V output 13.2 V ~ 18 V		
		+12 V output 17.6 V ~ 24 V		
		+3.3 V output 13.2 V ~ 18 V		
	Short Circuit protection	+3.3 V, +5 V, +12 V Shut down and latch off		
General Specifcation	**Output rise time**	20 ms Max.		
	Efficiency	78 %		
	MTBF	100,000 hours on max load at +25 °C		
	Temperature	Operating : 0 °C~ 50 °C		
		Storage : -20 °C~ 80 °C		
	Relative Humidity	5 % ~ 95 % RH non-condensing		
	Output connector	20+4-pin ATX, 4-pin 12 V CPU, FDD, SATA and 2 x HDD		

Dimensions



Ordering Information

Part No.	Description
ACE-4520C-RS	200W 24 V DC input 1U ATX Power Supply
ACE-4520T-RS	200W 48 V DC input 1U ATX Power Supply
ACE-4520V-RS	200W 12 V DC input 1U ATX Power Supply

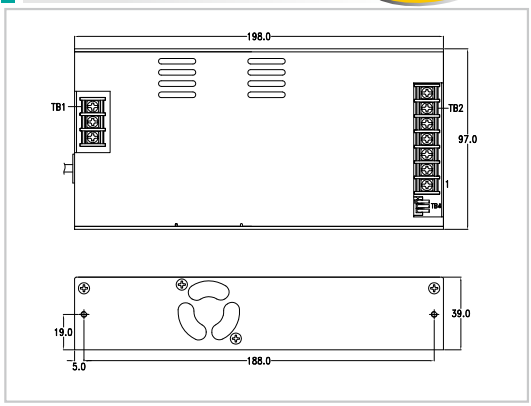
ACE-715VX/717CX *1U ATX 12V/24V DC Input*

170W

+5Vsb & PS On cable

Input Type	**9 ~ 18VDC (ACE-715VX), 19 ~ -32VDC (ACE-717CX)**					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
ACE-715VX	6A	16A (1A min)	10A (1A min)		1A	1.5A
ACE-717CX	6A	8A (1A min)	8A (1A min)		0.5A	1A
Efficiency	70% (ACE-715VX), 75% (ACE-717CX)					
Temperature	Operating : 0°C ~ 70°C (-20 can be start up), Storage : -40°C ~ 75°C					
MTBF(hrs)	100,000					
Output Connector	5VSB & PS_ON cable					
Dimensions	198 x 97 x 39 mm					

Dimensions



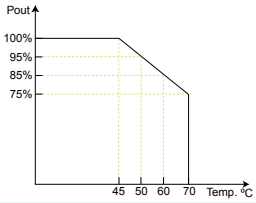
Optional 1	Embedded Solution	Optional 2	ATX Backplane Solution
	PN: CB-643EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors		**PN: CB-717BP-RS** 30 cm DC cable for ACE-715VX/717CX power to backplane, with 20-pin ATX, HDD and SATA connector

Ordering Information

Part No.	Description
ACE-715VX-RS	157W 12V DC input ATX Power Supply
ACE-717CX-RS	170W 24V DC input ATX Power Supply

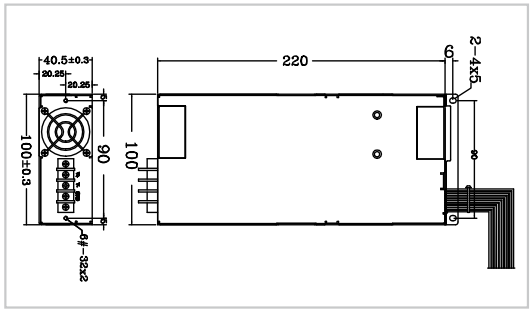
ACE-830CU1 *300 W 24V DC input 1U ATX Power Supply*

300W



Input Type	**19 ~ 36VDC**					
Input current	30A(RMS) @ 24VDC					
Output Voltage	**+3.3V**	**+5V**	**+12V**	**-5V**	**-12V**	**+5Vsb**
	20A	25A (3A min)	22A (1A min)	0.8A	1A	1.5A
	*+3.3V, +5V, total current not exceed 180W *+3.3V, +5V, +12V total current not exceed 296W					
Overvoltage protection	+5V output 5.74V ~ 7.0V, +12V output 13.4V ~ 15.6V					
Efficiency	70%					
Temperature	0˚C~ 50˚C (Operating), -20°C ~ 80°C (Storage)					
Relative Humidity	10% ~ 90% RH non-condensing					
MTBF(hrs)	100,000					
Output Connector	20+4-pin ATX, 4-pin 12 V CPU, 5 V (P10), 2 x SATA and 3 x HDD					
Dimensions	220 x 100 x 40.5 mm					

Dimensions



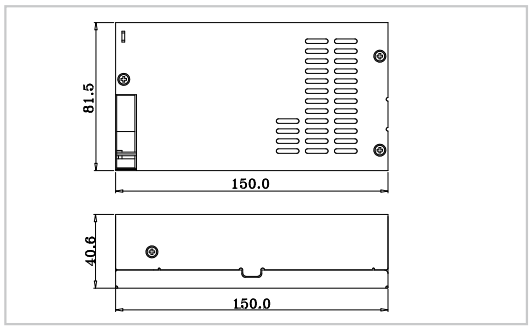
Ordering Information

Part No.	Description
ACE-830CU1-RS-R20	300W 24V DC input 1U ATX Power Supply

ACE-815C/T *1U ATX 24V/48V DC Input*

Input Type	**18 ~ 32 VDC (ACE-815C), 36 ~ 72 VDC (ACE-815T)**					
Output Voltage	**+3.3 V**	**+5 V**	**+12 V**	**-5 V**	**-12 V**	**+5 Vsb**
ACE-815C	4 A	13 A	2.5 A		0.3 A	1.5 A
ACE-815T	10 A	14 A	4.2 A	0.3 A	0.3 A	2 A
Efficiency	65 %					
Temperature	0°C~ 50°C (Operating), -20°C~ 80°C (Storage)					
MTBF(hrs)	100,000					
Output Connector	20-pin ATX, FDD and 3 x HDD					
Dimensions	150 x 81.5 x 40.5 mm					

Dimensions



Ordering Information

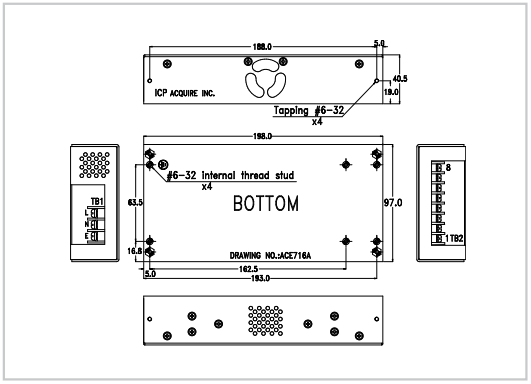
Part No.	Description
ACE-815C-RS	100 W 24 V DC input 1U ATX Power Supply
ACE-815T-RS	150 W 48 V DC input 1U ATX Power Supply

ACE-716C *150 W 24V DC input AT Power Supply*

150W

Input Type	**19 ~ 30 VDC**				
Output Voltage	**+5 V**	**+12 V**	**-5 V**	**-12 V**	**+24 V**
	18 A (2 A min)	4 A	0.5 A	1 A	
Efficiency	70 %				
Temperature	Operating : -20 °C~ 70 °C (50 °C~ 70 °C derating curve) Storage : -20 °C~ 85 °C				
MTBF(hrs)	210,000				
Output Connector	Optional Cable				
Dimensions	198 x 97 x 40.5 mm				

Dimensions



Output terminal block connectors

Pin 1, 2	Pin 3, 4	Pin 5	Pin 6	Pin7	Pin8
5 V	GND	-5 V	-12 V	GND	+12 V

Ordering Information

Part No.	Description
ACE-716C-RS	150 W 24 V DC input AT Power Supply

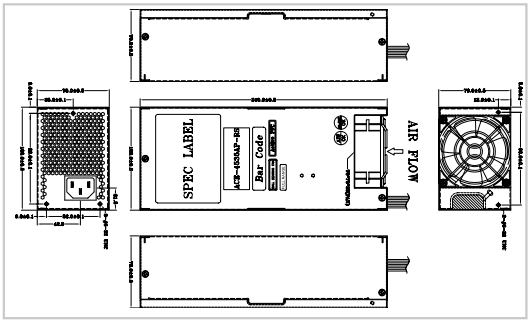
Optional 1	Embedded Solution	Optional 2	ATX Backplane Solution	Optional 3	AT P8P9 Backplane Solution
	PN: CB-716EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors		PN: CB-716BP-RS 30 cm DC cable to backplane with 20-pin ATX, HDD, SATA and HDD connectors		PN: CB-716P8P9-RS 30 cm DC cable AT power to P8P9 with HDD and SATA connectors

ACE-4535AP *360 W 2U ATX Power Supply*

360W

Input Type	**90~264 VAC Full Range, 47~63 Hz**					
Overvoltage	+3.3 V	+5 V	+12 V	+24 V	-12 V	-5 Vsb
	5 A(0.3A min.)	16 A(1A min.)	10 A(0.5A min.)	6 A(0A min.)	1 A(0A min.)	1.5 A(0A min.)
Efficiency	75 %					
Temperature	0 °C~ 50 °C (Operating), -20 °C~ 80 °C (Storage)					
MTBF(hrs)	100,000					
Output Connector	21 x 20+4-pin ATX 3 x HDD 1 x 5 V (P10)	1 x 4-pin 12 V CPU 2 x SATA				
Dimensions	240 x 100 x 70 mm					

Dimensions



Ordering Information

Part No.	Description
ACE-4535AP -RS	360W 2U ATX Power Supply with active PFC

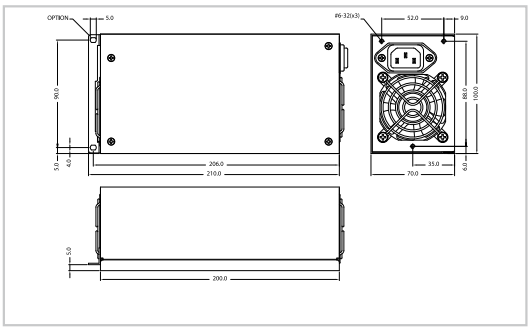
ACE-4530AP *300 W 2U ATX Power Supply*

300W

Best solution for the RACK-1350GATX 2.0 standard w/ new 20+4 Meets ATX revision 2.0, with 20+4-pin ATX power and SATA connector

Input Type	**90 ~ 264 VAC Full Range**					
Output	+5 V	+12 V	-12 V	-5 V	+3.3 V	+5 Vsb
	35 A	16 A	1 A	0.5 A	20 A	2 A
Efficiency	63 %					
Temperature	Operating : 0 °C ~ 50 °C, Storage : -20 °C ~ 80 °C					
Output Connector	1 x 20+4-pin ATX 4 x HDD 2 x SATA	1 x 4-pin 12 V CPU 2 x FDD 1 x 5 V (P10)				
Dimensions	200 x 100 x 70 mm					

Dimensions



Ordering Information

Part No.	Description
ACE-4530AP-RS	300 2U AC-DC ATX Power Supply, with PFC

ACE-728APM

280 W Medical Type ATX Power Supply with PFC

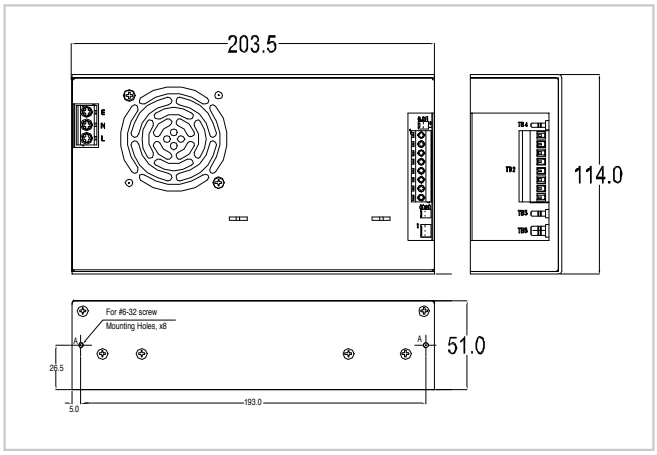
280W

PFC Medical

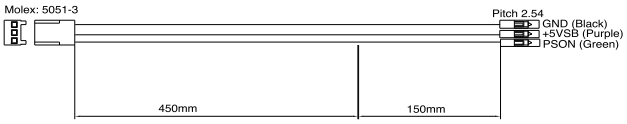
+5Vsb & PS On cable

Input Type	85 ~ 264 VAC Full Range					
Output Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb
		28 A (2A min)	10 A (0.5 min)		1 A	1 A
Efficiency	82 %					
Temperature	Operating : 0 °C~ 70 °C (50 °C~ 70 °C derating curve) Storage : -20 °C~ 85 °C					
MTBF(hrs)	100,000					
Output Connector	5VSB and PS_ON cable					
Dimensions	203 x 114 x 51 (mm)					

Dimensions



For Power ON, +5Vsb Cable



Ordering Information

Part No.	Description
ACE-728APM-RS	280W AC-DC ATX Power Supply with PFC, meet Medical standard

ACE-D825A

252 W FLEX Power Supply

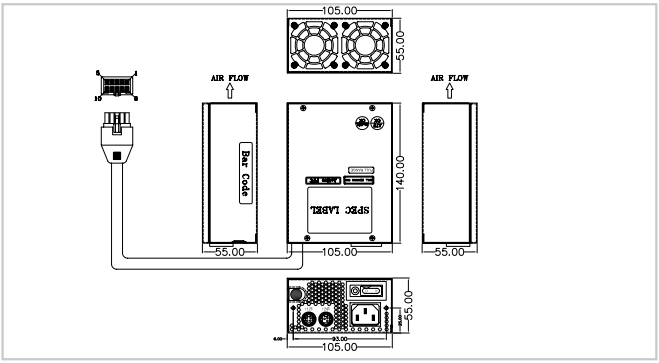
252W

ACE-D825A-H:
with rubber sleeve outside Ideal for desktop application, as AC-DC power adaptor.

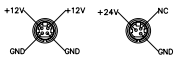
ACE-D825A

Input Type	90~264 VAC Full Range	
Output Voltage	+12 V	+24 V
	15.0 A (1.0 A min.)	3 A (0.0A min.) peak load 8 A
Efficiency	80 %	
Temperature	Operating : 0 °C~ 50 °C Storage : -20 °C ~ 80 °C	
MTBF(hrs)	100,000	
Output Connector	1 x 5-pin molex 39-01-2100 1 x 4-pin power mini-DIN for +12 VC 1 x 3-pin power mini-DIN for +24 VDC	
Dimensions	140 x 150 x 86 (mm)	

Dimensions



Output Pin Definitions



Pin	1	2	3	4	5	6	7	8	9	10
	COM	COM	COM	COM	+24V +24Vs	+12V +12Vs	+12V	+12V	+12V	+24V

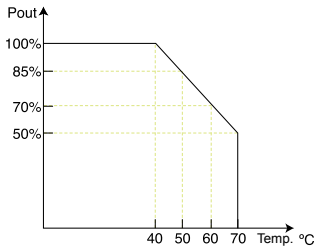
Ordering Information

Part No.	Description
ACE-D825A-RS	252W FLEX power supply
ACE-D825A-H-RS	252W FLEX power supply, with rubber sleeve

ACE-723C/T

200W 24V/-48V DC input AT Power Supply

200W

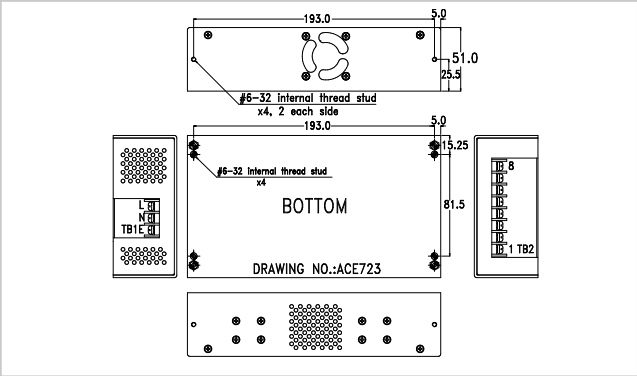


Input Voltage	ACE-723C: 19 ~ 30 VDC ACE-723T: -36 ~ -72 VDC			
Input Current	ACE-723C: 16 A (RMS) for 24 VDC ACE-723T: 8 A (RMS) for -48 VDC			
Output Voltage	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	3 A	22 A	100 mV
	+12 V	0 A	6 A	100 mV
	-5 V	0 A	1 A	100 mV
	-12 V	0 A	1 A	100 mV
Overload protection	+5 V output ±1% +12 V output ±4% -12 V output ±1% -5 V output ±1%			
Temperature	Operating : -20 ˚C ~ 70 ˚C (40 ˚C~ 70 ˚C derating curve) Storage : -20 ˚C ~ 85 ˚C			
Efficiency	ACE-723C: 70 %, ACE-723T: 75 %			
Input protection	Protection against wrong polarity if -48V volts inverse by mistake.			
Thermal protection	Thermal protectiion use build in 110 ˚C ±5 ˚C thermal switch in HS1.			
Vibration	10 ~ 55 Hz at 2G 3minutes period, 30 minutes along X, Y and Z axis.			
Impact	10G for 20ms once on each X, Y and Z axis.			
MTBF(hrs)	ACE-723C: 138,000, ACE-723T: 174,000			
Dimensions	203 x 112 x 51 (mm)			
Output connector	Optional Cable			

Ordering Information

Part No.	Description
ACE-723C-RS	200W 24V DC input AT Power Supply
ACE-723T-RS	200W -48V DC input AT Power Supply

Dimensions



AC terminal block

Pin1	Pin2	Pin3
E	N	L

Output terminal block

Pin 1, 2	Pin 3, 4	Pin 5	Pin 6	Pin7	Pin8
5V	GND	-5V	-12V	GND	+12V

Optional 1	Embedded Solution
	PN: CB-716EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-716BP-RS 30 cm DC cable to backplane with 20-pin ATX, HDD, SATA and HDD connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-716P8P9-RS 30 cm DC cable AT power to P8P9 with HDD and SATA connectors

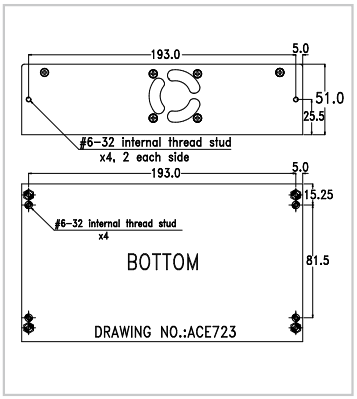
ACE-723A/B

200 W AC-DC AT Power Supply

200W

Input Type	**85 ~ 135 VAC, 180 ~ 265 VAC Auto Range**				
Output Voltage	**+5 V**	**+12 V**	**-5 V**	**-12 V**	**+24 V**
ACE-723A	22 A (3 A min)	6 A	1 A	1 A	
ACE-723B	21 A (3 A min)	5 A		1 A	1 A
Efficiency	75 %				
Temperature	Operating : -20°C~ 70°C (40°C~ 70°C derating curve) Storage : -20°C~ 85°C				
MTBF(hrs)	150,000 (ACE-723A) , 148,000 (ACE-723B)				
Output Connector	Optional Cable				
Dimensions	203 x 112 x 51 (mm)				

Dimensions



Optional 1	Embedded Solution
	PN: CB-716EB-RS 30 cm DC cable to CPU card with 4-pin 12 V CPU, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-716BP-RS 30 cm DC cable to backplane with 20-pin ATX, HDD, SATA and HDD connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-716P8P9-RS 30 cm DC cable AT power to P8P9 with HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-643EC-RS 20 cm AC input cable with I/O connector and fuse

Ordering Information

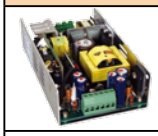
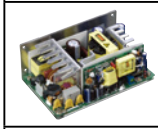
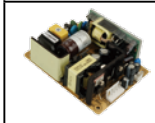
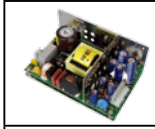
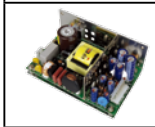
Part No.	Description
ACE-723A-RS	200W AC-DC AT Power Supply
ACE-723B-RS	200W AC-DC AT Power Supply, with +24V output

Open Frame Selection Guide

Safety (ITE Stardard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Stardard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

AC Input

Product	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	Medical ACE-713APM	130 W	ATX	Active	85 ~ 264 VAC	47 ~ 63 HZ		10 A (0.2 A min)	6 A		0.5 A	0.5 A	
	Medical ACE-710APM	100 W	ATX	Active	85 ~ 264 VAC	47 ~ 63 HZ		10 A (0.2 A min)	3.5 A		0.3 A	0.5 A	
	ACE-A406A	60 W	ATX	-	90~264 VAC	47~63 Hz		1 A	4.5 A (0.5 A min)			1 A	
	ACE-890A	86 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ		10 A	2.5 A		0.5 A		
	ACE-890AP-R20	86 W	AT	Active	90 ~ 264 VAC	47 ~ 63 HZ		10A (3 A min)	2.5 A (0.25 A min)		0.5 A		
	ACE-870A	70 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ		7 A	2.5 A	0.3 A	0.3A		
	ACE-870AP	70 W	AT	Active	85 ~ 264 VAC	47 ~ 63 HZ		7 A	2.5 A	0.3 A	0.3 A		
	ACE-855A	55 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ		8 A	1.2 A				
	Medical ACE-706AM	60 W	AT	-	90 ~ 264 VAC	47 ~ 63 HZ		3 A	3 A		0.3 A		
	ACE-663A	60 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ		6 A	2 A				
	Medical ACE-704AM	45 W	AT	-	90 ~ 264 VAC	47 ~ 63 HZ		3 A	2 A		0.3 A		
	ACE-643A	40 W	AT	-	85 ~ 264 VAC	47 ~ 63 HZ		4A	1.5 A				

Open Frame Selection Guide

Meets ITE (IEC60950) Standard: V ; Meets Medical (IEC60601) Standard : M

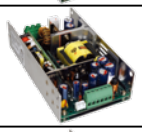
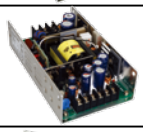
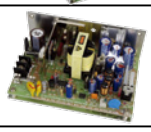
AC Input													
Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
80 %	-20 °C ~ 70 °C	-40 °C ~ 75 °C	VM	VM		VM	V			V		152.4 x 89 x 39 (mm)	
80 %	-20 °C~ 70 °C	-40 °C ~ 75 °C	VM	VM		VM	VM			VM		127 x 81 x 50 (mm)	
75 %	0 °C ~ 50 °C	-30 °C ~ 70 °C	V	V		V	V			V		76 x 90 x 32 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C			V					V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-30 °C ~ 70 °C	V	V		V	V		V	V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V								127 x 81 x 50 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V		V				V		127 x 81 x 50 (mm)	
70 %	0 °C ~ 60 °C	-20 °C ~ 85 °C		V						V		177.5 x 50.5 x 37 (mm)	
82 %	0 °C ~ 70 °C	-40 °C ~ 75 °C	VM	V		VM	V			V		63.5 x 114.3 x 32.4 (mm)	
81 %	-20 °C ~ 70 °C	-40 °C ~ 75 °C	VM	V		V	V			V		95 x 100 x 36 (mm)	
80 %	0 °C ~ 70 °C	-40 °C ~ 75 °C	V	V		VM	V			V		50.8 x 101.6 x 30.4 (mm)	
81 %	-20 °C ~ 70 °C	-40 °C ~ 75 °C	V	V		V	V			V		82 x 99 x36 (mm)	

Open Frame Selection Guide

Safety (ITE Stardanrd) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Stardard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

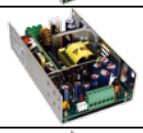
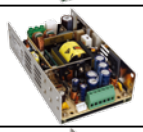
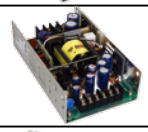
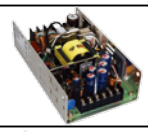
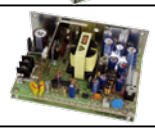
DC Input

Products	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-709VX	80 W	ATX	-	12 VDC (9 ~ 16 VDC)	-		8 A	2.5 A		0.5 A	0.5 A	
	**ACE-709CX**	90 W	ATX	-	24 VDC (18 ~ 32 VDC)	-		10 A	2.5 A		0.5 A	0.5 A	
	ACE-709TX	90 W	ATX	-	48 VDC (36 ~ 72 VDC)	-		10 A	2.5 A		0.5 A	0.5 A	
	ACE-890P	86 W	AT	-	110 VDC (70 ~ 132 VDC)	-		10 A	2.5 A		0.5 A		
	**ACE-890V**	72 W	AT	-	12 VDC (9 ~ 16 VDC)	-		9 A	2 A		0.3 A		
	ACE-865V	60 W	AT	-	12 VDC (8 ~ 16 VDC)	-		6 A	2 A	0.3 A	0.5 A		
	ACE-845V	42 W	AT	-	12 VDC (9.5 ~ 18 VDC)	-		6 A	1.1 A				
	ACE-890C	86 W	AT	-	24 VDC (18 ~ 36 VDC)	-		10 A	2.5 A		0.5 A		
	ACE-870C	70 W	AT	-	24 VDC (18 ~ 36 VDC)	-		7 A	2.5 A	0.3 A	0.5 A		
	ACE-855C	55 W	AT	-	24 VDC (16 ~ 32 VDC)	-		8 A	1.2 A				
	ACE-890T	86 W	AT	-	48 VDC (36 ~ 72 VDC)	-		10 A	2.5 A		0.5 A		
	**ACE-870T**	70 W	AT	-	48 VDC (36 ~ 72 VDC)	-		7 A	2.5 A	0.3 A	0.5 A		

Open Frame Selection Guide

Meets ITE (IEC60950) Standard: V ; Meets Medical (IEC60601) Standard : M

DC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C	V	V		V	V			V		152.4 x 89 x 39 (mm)	
75 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C	V	V		V	V			V		152.4 x 89 x 39 (mm)	
70 %	-20 °C ~ 70 °C	-20 °C ~ 85 °C	V	V		V	V			V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V	V	V				V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V	V	V				V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C								V		127 x 81 x 50 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V						V		177.5 x 50.5 x 37 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V	V	V				V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50°C	-20 °C ~ 85 °C		V		V				V		127 x 81 x 50 (mm)	
70 %	0 °C ~ 60 °C	-20 °C ~ 85 °C		V						V		177.5 x 50.5 x 37 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V	V	V				V		152.4 x 89 x 39 (mm)	
70 %	0 °C ~ 50 °C	-20 °C ~ 85 °C		V		V				V		127 x 81 x 50 (mm)	

ACE-713APM

130 W Medical Type ATX Power Supply with PFC

130W

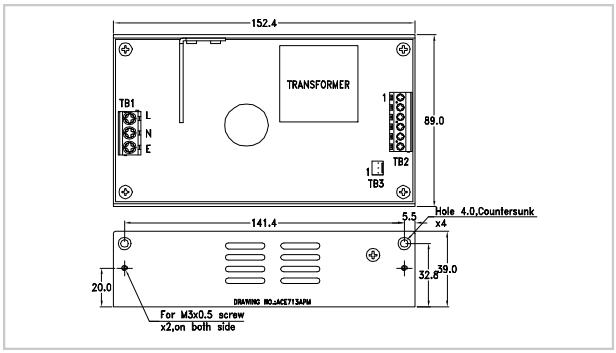
Medical

PFC

+5Vsb & PS
On cable

Input Type	85 ~ 264VAC Full Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
		10A (0.2A min)	6A		0.5A	0.5A
Efficiency	80%					
Temperature	Operating : -20°C ~ 70°C (50°C ~ 70°C derating curve) Storage : -40°C ~ 75°C					
MTBF(hrs)	143,000					
Output Connector	5VSB & PS_ON cable					
Dimensions	152.4 x 89 x 39 mm					

Dimensions



Ordering Information

Part No.	Description
ACE-713APM-RS	130W AC-DC ATX Power Supply with PFC, meets medical standards

Optional 1	AC Input Solution
	PN: CB-643EC-RS 20 cm AC input cable with I/O connector and fuse
Optional 2	**Embedded Solution**
	PN: CB-709EB-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-709BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors

ACE-710APM

100 W Medical Type ATX Power Supply with PFC

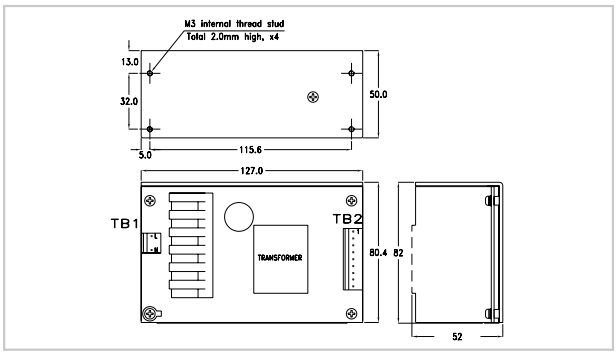
100W

Medical

PFC

Input Type	85 ~ 264VAC Full Range					
Output Voltage	+3.3V	+5V	+12V	-5V	-12V	+5Vsb
		10A (0.2A min)	3.5A		0.3A	0.5A
Efficiency	80%					
Temperature	Operating : -20°C ~ 70°C (50°C ~ 70°C derating curve) Storage : -40°C ~ 75°C					
MTBF(hrs)	100,000					
Output Connector	Optional Cable					
Dimensions	127 x 81 x 50 mm					

Dimensions



Ordering Information

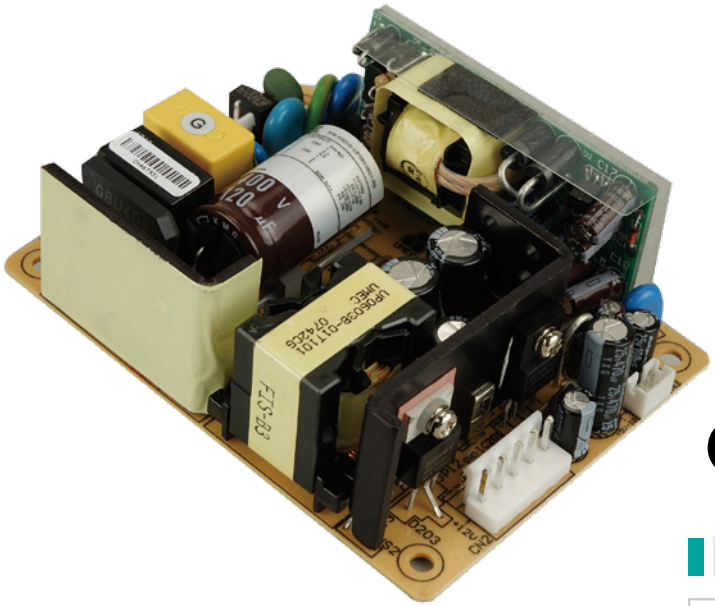
Part No.	Description
ACE-710APM-RS	100W AC-DC ATX Power Supply with PFC, meets medical standards

Optional 1	AC Input Solution
	PN: CB-870EC-RS 20 cm AC input cable with I/O connector and fuse
Optional 2	**Embedded Solution**
	PN: CB-710EB-RS 30 cm DC cable to CPU card, with 4-pin 12 V CPU, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-710BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors

ACE-A406A

60 W AC-DC ATX open frame power supply

60W



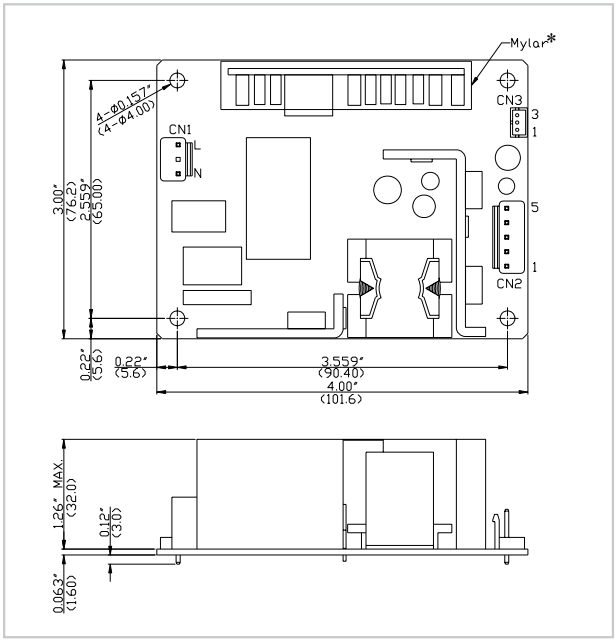
Specifications

Input Type	**90 ~ 264 VAC Full Range**			
Input Frequency	**47~63Hz**			
Input Current	**1.6A (RMS) Max.**			
Inrush Current	**60A/230VAC Max.**			
Output Voltage	**Voltage**	**Min.load**	**Max.load**	**Ripple & Noise**
	+12V	0.5A	4.5A	120mV
	+5V	0A	1A	50mV
	+5Vsb	0A	1A	50mV
Efficiency	75%			
Temperature	Operating : 0˚C ~ 50˚C Storage : -30˚C~ 70˚C			
MTBF(hrs)	100,000			
Output Connector	Optional cable			
Dimensions	76.2(W)x101.6(H)x32(D)mm			

Ordering Information

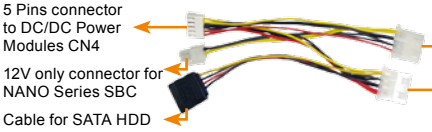
Part No.	Description
ACE-A406A-RS	60W AC-DC ATX open frame power supply

Dimensions



Optional 1	AC Input Solution
FUSE	**PN: CB-704EC-RS** 20 cm AC input cable with fuse

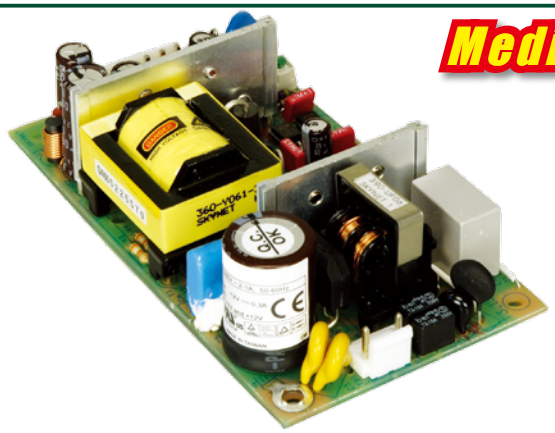
Optional 2	PN: CB-5PSBC-RS



1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

ACE-706AM

51~80 W AC-DC Open Frame Medical AT Power Supply



Medical

51W rated and 80W peak under convection cooling environment

Features

1. Only 1.28 inch height
2. 4.2 Watt per cubic inch
3. Meets ITE and medical safety standards
4. High efficiency 82%
5. Operation from 0°C to 70°C by convection
6. Single side PCB for low assembly cost

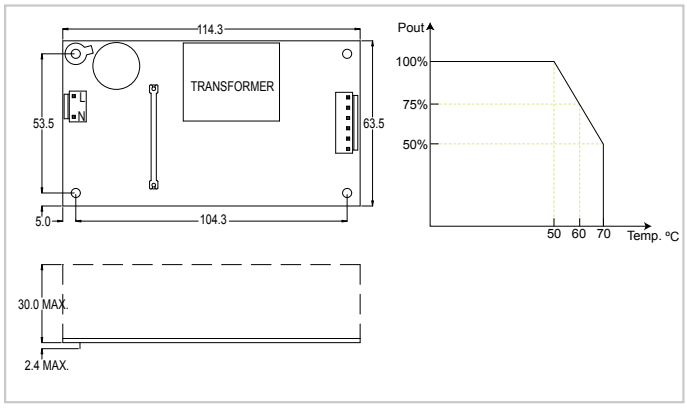
Specifications

Input	**Voltage**		90 ~ 264 VAC Full Range	
	Frequency		47 Hz~ 63 Hz	
	Input Current		2 A(RMS)@115V 1 A(RMS)@230V	
	Inrush Current		30 A Max for 115VAC 60 A Max for 230VAC	
Output	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	0 A	4.5 A	1 %
	+12 V	0 A	4 A	1 %
	-12 V	0 A	0.3 A	1 %
	Overvoltage protection		latch off	
	Short Circuit protection		auto recovery	
General Specifications	**Watt**		51W~80 W	
	PFC		-	
	Hold-up time		16 ms Min.	
	Efficiency		82 %	
	MTBF		100,000 hours	
	Temperature		Operation: 0 °C~ 70 °C Storage: -40 °C~ 85 °C	
	Outline Conntector		Optional Cable	
	Dimensions		63.5 x 114.3 x 32.4 (mm) 2.5 x 4.5 x 1.28 (inch)	

Ordering Information

Part No.	Description
ACE-706AM-RS	51~80W AC-DC Open Frame Medical AT Power Supply. RoHS

Dimensions



Optional 1	AC Input Solution
FUSE	**PN: CB-704EC-RS** 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-704EB-RS 30 cm DC cable to CPU board, with 4-pin 12 V CPU, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-704BP-RS 30 cm DC cable to CPU board, with 4-pin 12 V CPU, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-704P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

12V only conntector (CB-704EB-RS)

SATA device conntector

IDE device conntector

ATX backplane conntector (CB-704BP-RS)

ACE-704AM

39~60 W AC-DC Open Frame Medical AT Power Supply

Medical

39W rated and 60W peak under convection cooling environment

Features

1. Only 1.2 inch height
2. 4.7 Watt per cubic inch
3. Meets ITE and medical safety standards
4. High efficiency 80%
5. Operation from 0˚C to 70˚C by convection
6. Single side PCB for low assembly cost

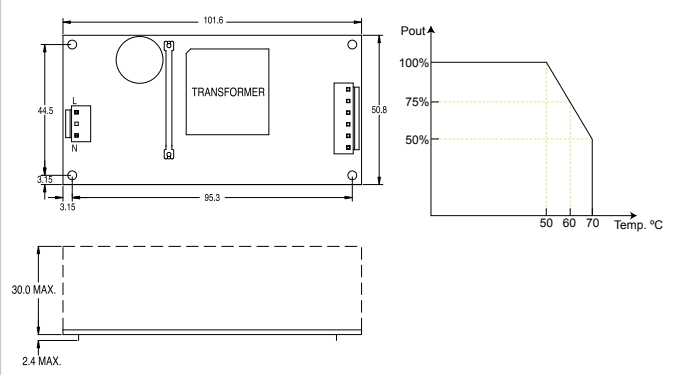
Specifications

Input	**Voltage**	90 ~ 264 VAC Full Range		
	Frequency	47 Hz~ 63 Hz		
	Input Current	2 A(RMS)@115V 1 A(RMS)@230V		
	Inrush Current	30 A Max for 115VAC 60 A Max for 230VAC		
Output	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	0 A	4 A	1 %
	+12 V	0 A	3 A	1 %
	-12 V	0 A	0.3 A	1 %
	Overvoltage protection	latch off		
	Short Circuit protection	auto recovery		
General Specifications	**Watt**	39~60 W		
	PFC	-		
	Hold-up time	14 ms Min.		
	Efficiency	80 %		
	MTBF	100,000 hours		
	Temperature	Operation: 0 ˚C ~ 70˚C Storage: -40 ˚C ~ 85˚C		
	Dimensions	50.8 X 101.6 X 30.4 (mm) 2 X 4 X 1.2 (inch)		
	Outline Conntector	Optional Cable		

Ordering Information

Part No.	Description
ACE-704AM-RS	39~60W AC-DC Open Frame Medical AT Power Supply.RoHS

Dimensions



Optional 1	AC Input Solution
FUSE	**PN: CB-704EC-RS** 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-704EB-RS 30 cm DC cable to CPU board, with 4-pin 12 V CPU, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-704BP-RS 30 cm DC cable to CPU board, with 4-pin 12 V CPU, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-704P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

12V only conntector (CB-704EB-RS)

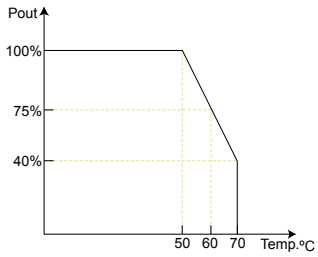
SATA device conntector

IDE device conntector

ATX backplane conntector (CB-704BP-RS)

ACE-663A

60 W AC Input AT Power Supply



Features

1. Meets ITE safety standards
2. 1.41 inch height
3. Power good LED
4. Output adjustable trimmer
5. High efficiency 83%
6. Operation from -20°C to 70°C by convection

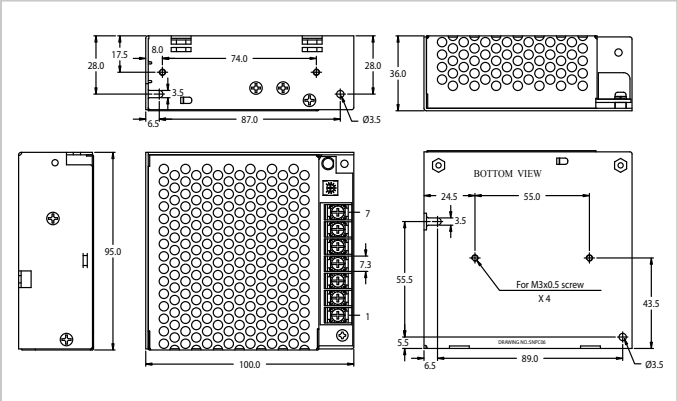
Specifications

Input	**Voltage**	85 ~ 264 VAC Full Range		
	Frequency	47 Hz~ 63 Hz		
	Input Current	1.5 A (RMS)@115V 0.8 A (RMS)@230V		
	Inrush Current	30 A Max for 115VAC 60 A Max for 230VAC		
Output	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	0 A	6 A	50 mV
	+12 V	0 A	2 A	120 mV
	Overvoltage protection	latch off		
	Short Circuit protection	auto recovery		
General Specifications	**Watt**	60 W		
	PFC	-		
	Hold-up time	14 ms Min.		
	Efficiency	81 %		
	MTBF	100,000 hours		
	Temperature	Operation:-20 °C~ 70 °C Storage : -40 °C~ 75 °C		
	Dimensions	95 x 100 x 36 (mm) 3.74 x 3.93 x 1.41 (inch)		
	Outline Connector	Optional Cable		

Ordering Information

Part No.	Description
ACE-663A-RS	60W AC Input AT Power Supply, RoHS

Dimensions



Optional 1	AC Input Solution
FUSE	**PN: CB-643EC-RS** 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-643EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-643BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-643P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

12V only connector (CB-643EB-RS)

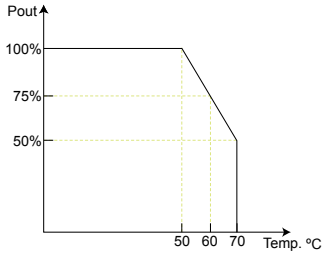
SATA device conntector

IDE device conntector

ATX backplane conntector (CB-643BP-RS)

ACE-643A

40 W AC Input AT Power Supply



Features

1. Meets ITE safety standards
2. 1.1 inch height
3. Power good LED
4. Output adjustable trimmer
5. High efficiency 80%
6. Operation from -20˚C to 70˚C by convection

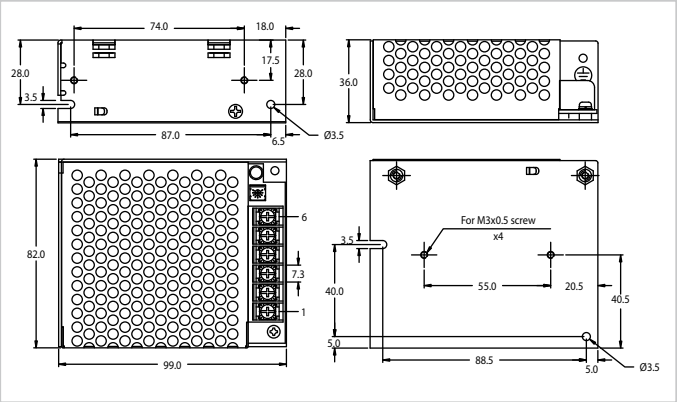
Specifications

Input	**Voltage**	85 ~ 264 VAC Full Range		
	Frequency	47 Hz ~ 63 Hz		
	Input Current	1.5 A(RMS)@115V 0.8 A(RMS)@230V		
	Inrush Current	30 A Max for 115VAC 60 A Max for 230VAC		
Output	**Voltage**	**Min. load**	**Max. load**	**Ripple & Noise**
	+5 V	0 A	4 A	50 mV
	+12 V	0 A	1.5 A	120 mV
	Overvoltage protection	latch off		
	Short Circuit protection	auto recovery		
General Specifications	**Watt**	40 W		
	PFC	-		
	Hold-up time	16 ms Min.		
	Efficiency	81 %		
	MTBF	100,000 hours		
	Temperature	Operation:-20 ˚C~ 70 ˚C Storage : -40 ˚C~ 75 ˚C		
	Dimensions	82 X 99 X 36 (mm) 3.22 X 3.89 X 1.41 (inch)		
	Outline Connector	Optional Cable		

Ordering Information

Part No.	Description
ACE-643A-RS	40W AC Input AT Power Supply, RoHS

Dimensions



Optional 1	AC Input Solution
FUSE	**PN: CB-643EC-RS** 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-643EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-643BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-643P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

12V only conntector (CB-643EB-RS)

SATA device conntector

IDE device conntector

ATX backplane conntector (CB-643BP-RS)

ACE-890A/AP

86 W AC-DC Open Frame AT Power Supply

86W

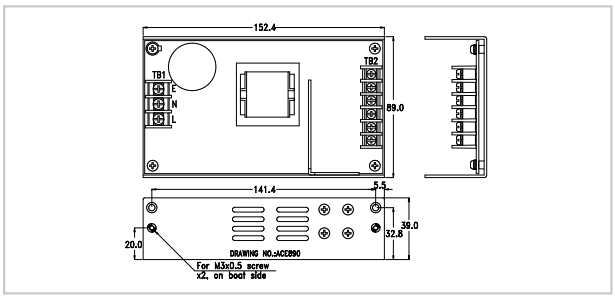
PFC

Input Type	85 ~ 264 VAC Full Range (ACE-890A) 90 ~ 264 VAC Full Range (ACE-890AP-R20)				
Output Voltage	+5 V	+12 V	-5 V	-12 V	+24 V
ACE-890A	10 A	2.5 A		0.5 A	
ACE-890AP	10 A (3A min)	2.5 A (0.25A min)		0.5 A	
Efficiency	70 %				
Temperature	ACE-890A : 0°C ~ 50°C (Operating), -20°C ~ 85°C (Storage) ACE-890AP : 0°C ~ 50°C (Operating), -30°C~ 70°C (Storage)				
MTBF(hrs)	268,000 (ACE-890A) , 300.000 (ACE-890AP)				
Output Connector	Optional Cable				
Dimensions	152.4 x 89 x 39 mm				

Ordering Information

Part No.	Description
ACE-890A-RS	86W AC-DC Open Frame AT Power Supply
ACE-890AP-R20-RS	86W AC-DC Open Frame AT Power Supply, with PFC

Dimensions



Optional 1	AC Input Solution
	PN: CB-643EC-RS 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-643EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-890BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-890P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

ACE-870A/AP

70 W AC-DC Open Frame AT Power Supply

70W

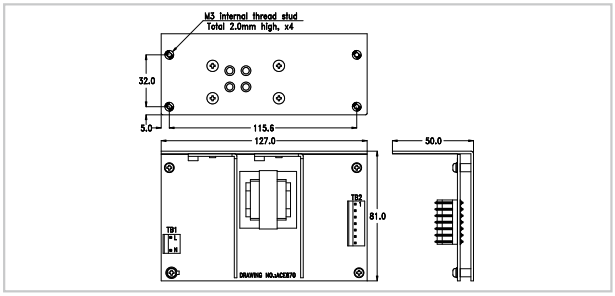
PFC

Input Type	85 ~ 264VAC Full Range				
Output Voltage	+5V	+12V	-5V	-12V	+24V
	7A	2.5A	0.3A	0.3A	
Efficiency	70%				
Temperature	0°C ~ 50°C (Operating), -20°C ~ 85°C(Storage)				
MTBF(hrs)	296,000 (ACE-870A) , 238.000 (ACE-870AP)				
Output Connector	Optional Cable				
Dimensions	127 x 81 x 50 mm				

Ordering Information

Part No.	Description
ACE-870A-RS	70W AC-DC Open Frame AT Power Supply
ACE-870AP-RS	70W AC-DC Open Frame AT Power Supply, with PFC

Dimensions



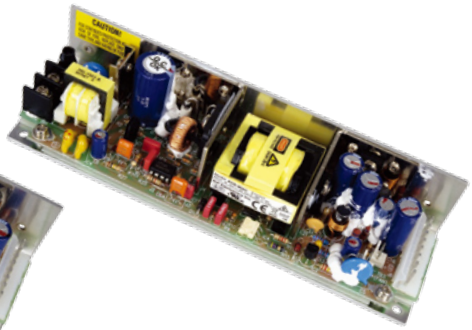
Optional 1	AC Input Solution
	PN: CB-870EC-RS 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-870EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-870BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-870P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

ACE-855A/845V/855C

55 W Open Frame AT Type **55W**

ACE-855A

ACE-845V

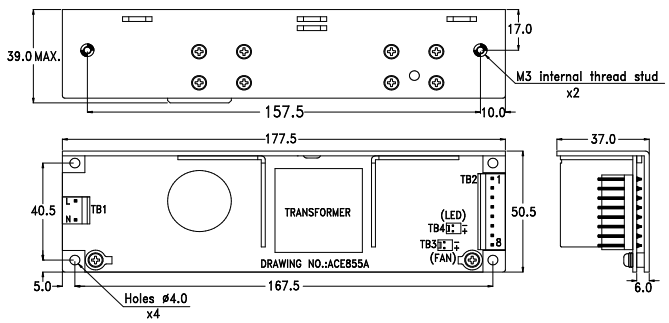

ACE-855C

Specifications

Input Type	85 ~ 264 VAC Full Range (ACE-855A), 9.5 ~ 18 VDC (ACE-845V), 16 ~ 32VDC (ACE-855C				
Output Voltage	+5 V	+12 V	-5 V	-12 V	+24 V
ACE-855A	8 A	1.2A			
ACE-845V	6 A	1.1 A			
ACE-855C	8 A	1.2 A			
Efficiency	70 %				
Temperature	ACE-855A/855C: 0°C~ 60°C (Operating), -20°C~ 85°C (Storage) ACE-845V: 0°C~ 50°C (Operating), -20°C~ 85°C (Storage)				
MTBF(hrs)	335,000 (ACE-855A), 364,000 (ACE-845V), 358,000 (ACE-855C)				
Output Connector	Optional Cable				
Dimensions	177.5 x 50.5 x 37 (mm)				

Optional 1	AC Input Solution
	PN: CB-855EC-RS 20 cm AC input cable with fuse
Optional 2	**Embedded Solution**
	PN: CB-855EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 3	**ATX Backplane Solution**
	PN: CB-855BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 4	**AT P8P9 Backplane Solution**
	PN: CB-855P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

Dimensions



Ordering Information

Part No.	Description
ACE-855A-RS	55W AC-DC Open Frame AT Power Supply
ACE-845V-RS	42W 12V DC Input Open Frame AT Power Supply
ACE-855C-RS	55W 24V DC Input Open Frame AT Power Supply

12V only conntector

ATX backplane conntector

IDE device conntector

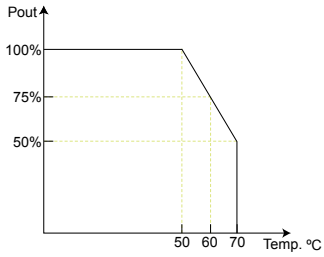
SATA device conntector

ACE-709VX/CX/TX

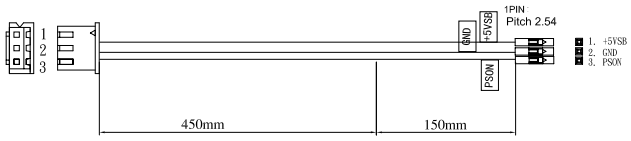
DC Input Open Frame ATX Power **90W**

Specifications

Input Type	9 ~ 16 VDC (ACE-709VX) 18 ~ 32 VDC (ACE-709CX) 36 ~ 72 VDC (ACE-709TX)					
Output Voltage	**+3.3 V**	**+5 V**	**+12 V**	**-5 V**	**-12 V**	**+5 Vsb**
ACE-709VX		8 A	2.5 A		0.5 A	0.5 A
ACE-709CX/TX		10 A	2.5 A		0.5 A	0.5 A
Efficiency	75 % (ACE-709VX/CX) , 70 % (ACE-709TX)					
Temperature	Operating : -20°C ~ 70°C (50°C~ 70°C derating curve) Storage : -20°C ~ 85°C					
MTBF(hrs)	162,000 (ACE-709VX), 158,000 (ACE-709CX), 170,000 (ACE-709TX)					
Output Connector	Optional Cable					
Dimensions	152.4 x 89 x 39 mm					



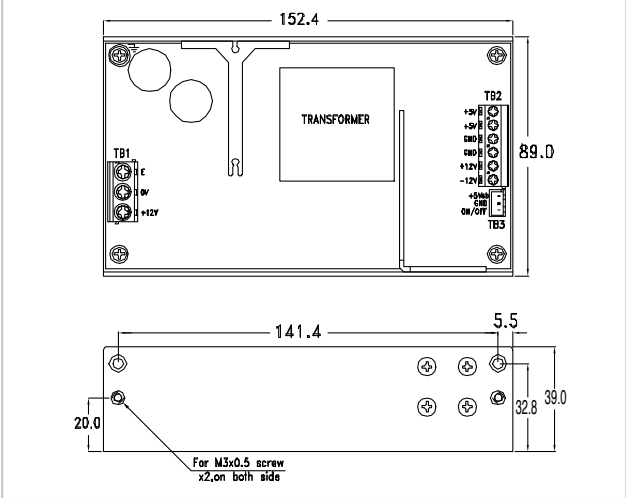
For Power ON, +5Vsb Cable



Wire Color vs Voltage

PIN	Voltage	Wire Color	Label Text
1	+5Vsb	Purrle	+5Vsb
2	GND	Black	GND
3	On/Off	Green	PS On

Dimensions



Packing information

1 x +5Vsb & PS On Cable

Ordering Information

Part No.	Description
ACE-709VX-RS	80W 12V DC Input Open Frame ATX Power Supply
ACE-709CX-RS	90W 24V DC Input Open Frame ATX Power Supply
ACE-709TX-RS	90W 48V DC Input Open Frame ATX Power Supply

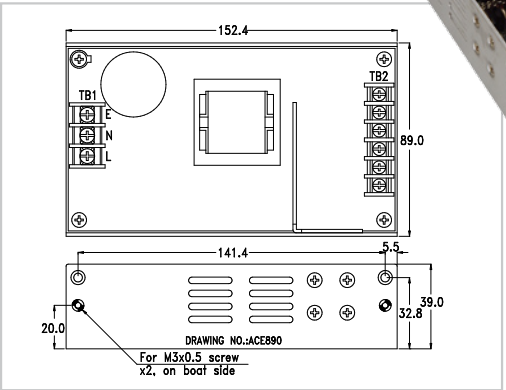
Optional 1	Embedded Solution
	PN: CB-709EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-709BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors

ACE-890V/C/T/P

DC Input Open Frame AT Power Supply

86W

Dimensions



Input Type	9 ~ 16 VDC (ACE-890V), 18 ~ 36 VDC (ACE-890C), 36 ~ 72 VDC (ACE-890T), 70 ~ 132 VDC (ACE-890P)				
Output Voltage	+5 V	+12 V	-5 V	-12 V	+24 V
ACE-890V	9 A	2 A		0.3 A	
ACE-890C/T/P	10 A	2.5 A		0.5 A	
Efficiency	70 %				
Temperature	0°C~ 50°C (Operating), -20°C~ 85°C (Storage)				
MTBF(hrs)	245,000 (ACE-890V), 251,000 (ACE-890C), 269,000 (ACE-890T), 265,000 (ACE-890P)				
Output Connector	Options Cable				
Dimensions	152.4 x 89 x 39 (mm)				

Optional 1	Embedded Solution
	PN: CB-643EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-890BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-890P8P9-RS 30 cm DC cable AT power to P8P9, HDD and SATA connectors

Ordering Information

Part No.	Description
ACE-890V-RS	72W 12V DC Input Open Frame AT Power Supply
ACE-890C-RS	86W 24V DC Input Open Frame AT Power Supply
ACE-890T-RS	86W 48V DC Input Open Frame AT Power Supply
ACE-890P-RS	86W 110V DC Input Open Frame AT Power Supply

ACE-865V/870C/T

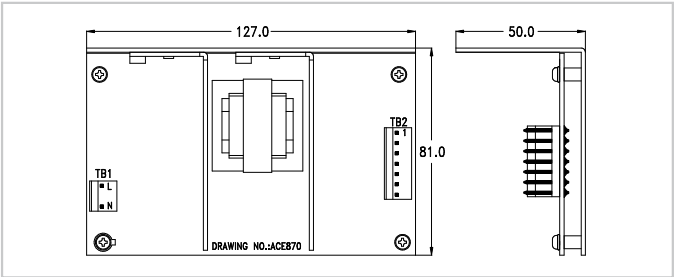
DC Input Open Frame

60W

ACE-865V

70W

ACE-870C/T



Input Type	8 ~ 16 VDC (ACE-865V), 18 ~ 36 VDC (ACE-870C), 36 ~ 72 VDC (ACE-870T)				
Output Voltage	+5 V	+12 V	-5 V	-12 V	+24 V
ACE-865V	6 A	2 A	0.3 A	0.5 A	
ACE-870C/T	7 A	2.5 A	0.3 A	0.5 A	
Efficiency	70 %				
Temperature	0°C~ 50°C (Operating), -20°C~ 85°C (Storage)				
MTBF(hrs)	246,000 (ACE-865V), 276,000 (ACE-870C/T)				
Output Connector	Optional Cable				
Dimensions	127 x 81 x 50 (mm)				

Optional 1	Embedded Solution
	PN: CB-870EB-RS 30 cm DC cable to CPU card, with 20-pin ATX, HDD and SATA connectors
Optional 2	**ATX Backplane Solution**
	PN: CB-870BP-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors
Optional 3	**AT P8P9 Backplane Solution**
	PN: CB-870P8P9-RS 30 cm DC cable to backplane, with 20-pin ATX, HDD and SATA connectors

Ordering Information

Part No.	Description
ACE-865V-RS	60W 12V DC Input Open Frame AT Power Supply
ACE-870C-RS	70W 24V DC Input Open Frame AT Power Supply
ACE-870T-RS	70W 48V DC Input Open Frame AT Power Supply

Redundant Type Selection Guide

Safety (ITE Stardard) - CB IEC 60950, UL 60950, CSA C 22.2 No. 60950, TUV EN 60950
Safety (Medical Stardard) - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
EMI - Meets EN 55022, FCC Part 15, CISPR 22.
Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
EMS - Meets EN 55024, EN 61000-4-2/ 3/ 4/ 5/ 6/ 8/ 11

** For the detail spec., please refer to the official certification*

AC Input

Product	Model No.	Watt	AT or ATX	PFC	Input range		Output current range						
					Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+24 V
	ACE-R4140AP	400 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 Hz	25 A (2A min)	25 A (2 A min)	30 A (2.5 A min)		0.8 A (0.1A min)	2 A (0.1A min)	
	ACE-R4130AP	300 W	ATX	Active	90 ~ 264 VAC	47 ~ 63 Hz	18 A (1A min)	25 A (3 A min)	16 A (2 A min)	0.5A	0.5 A	2 A (0.1A min)	

Adapter Type Selection Guide

AC Input

Product	Model No.	Watt	PFC	Input range		Output current range						
				Voltage	Frequency	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb	+19 V
	FSP120AAB	120 W	-	90 ~ 264 VAC	47 Hz ~ 63 Hz							6.32A
	FSP060DBAB1	60 W	-	90 ~ 264 VAC	47 Hz ~ 63Hz			5 A				
	FSP036RAB	36W	-	90 ~ 264 VAC	47 Hz ~ 63Hz			3A				
	UP0251E12PL	25 W	-	90 ~ 264 VAC	47 Hz ~ 63 Hz			2.1 A				

Redundant Type Selection Guide

Meet ITE (IEC60950) Standard: V ; Meet Medical (IEC60601) Standard : M

AC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
65 %	0 ˚C ~ 40 ˚C	-40 ˚C ~ 70 ˚C		V		V	V		V	V	V	150 x 85 x 190 (mm)	
65 %	0 ˚C ~ 50 ˚C	-20 ˚C ~ 80 ˚C	V	V		V	V			V	V	185 x 150 x 86 (mm)	

Adapter Type Selection Guide

AC Input

Efficiency	Temperature		Safety						EMC			Dimensions	Product
	Operating	Storage	CB	UL	CSA	TUV	CCC	other	BSMI	CE	FCC		
86 %	0°C ~ 50°C	-40°C ~ 85°C	V	V			V	Nemko	V	V		167 x 65 x 37 (mm)	
87 %	0°C ~ 40°C	-20°C ~ 65°C	V	V		V	V		V	V	V	110 x 31 x 62 (mm)	
84.7 %	0°C ~ 40°C	20°C ~ 80°C	V	V		V	V		V	V	V	91.5 x 37.5 x 26 (mm)	
85 %	0°C ~ 50°C	-40°°C ~ 85°C	V	V		V	V			V		120 x 60 x 36 (mm)	

ACE-R4140AP

400 W ATX Mini Redundant Power Supply

PFC

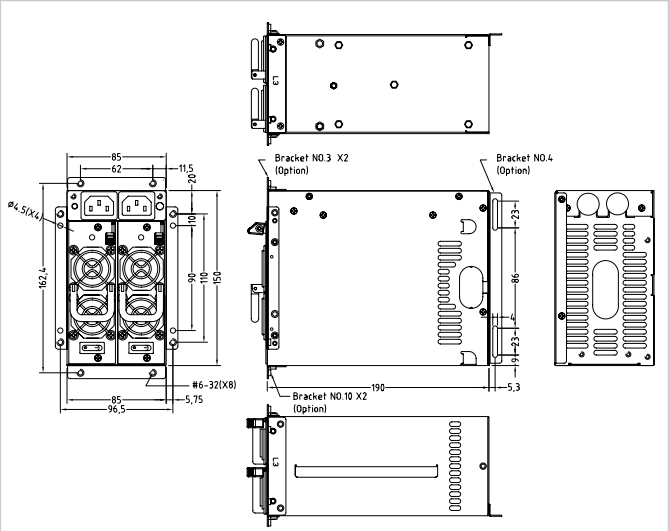
Specifications

Input	Voltage	90 ~ 264 VAC Full Range		
	Frequency	47 Hz~ 63 Hz		
	Input Current	8 A(RMS)@ 100 VAC 4 A(RMS)@ 240 VAC		
	Inrush Current	80 A Max for 100 VAC 12 0 Max for 240 VAC		
Output	**Voltage**	**Min.load**	**Max.load**	**Ripple & Noise**
	+5 V	2 A	25 A	50 mV P-P
	+12 V	2.5 A	30 A	120 mV P-P
	-12 V	0.1 A	0.8 A	120 mV P-P
	+3.3 V	2 A	25 A	50 mV P-P
	+5 Vsb	0.1 A	2 A	50 mV P-P
	+5 V, +12 V total current not exceed 150 W +3.3 V, +5 V, +12V total current not exceed 440 W			
	Over-voltage protection	+5 V output 5.7 V ~ 6.5 V		
		+12 V output 13.3 V ~ 14.5 V		
		+3.3 V output 3.9 V ~ 4.5 V		
	Over Circuit protection	+5 V output 10.5 V ~ 12.5V		
		+12 V output 25.2 V ~ 30 V		
		+3.3 V output 6.93 V ~ 8.25 V		
	Short Circuit protection	+3.3 V, +5 V, +12 V Shut down and latch off		
General Specifcation	Hold up time	17 ms Min.		
	Efficiency	65 % Min		
	MTBF	100,000 hours on max load at +25 °C		
	Temperature	Operating : 0°C ~ 50°C		
		Storage : -40°C ~ 70°C		
	Dimensions	150 x 85 x 190 (mm)		
	Output connector	20+4PIN ATX x1, 4PIN 12V CPU x1, HDD/ CDROM x8, FDD x2, SATA x2, Buzzer Reset x1, T.T.L signal x1, LED power x1		

Features

1. Active power factor correction
2. Remote DC sense on +5V and +3.3V
3. Short circuit protection
4. Overcurrent protection
5. Overvoltage protection
6. Over power protection
7. MTBF > 100,000 hours
8. Compact size module design
9. Power fault alarm signals
10. Front panel LED to indicate power status
11. For 90 VAC - 240 VAC full range
12. Vertical and horizontal type available

Dimensions



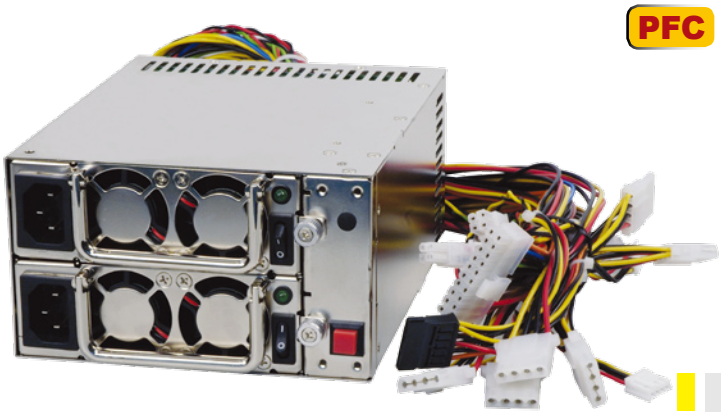
Ordering Information

Part No.	Description
ACE-R4140AP-RS	400W Mini Redundant ATX Power Supply, with PFC
ACE-R4140AP1-RS	400W AC-DC ATX Redundant module, for ACE-R4140AP, with PFC

ACE-R4130AP

300 W ATX Mini Redundant Power Supply

PFC



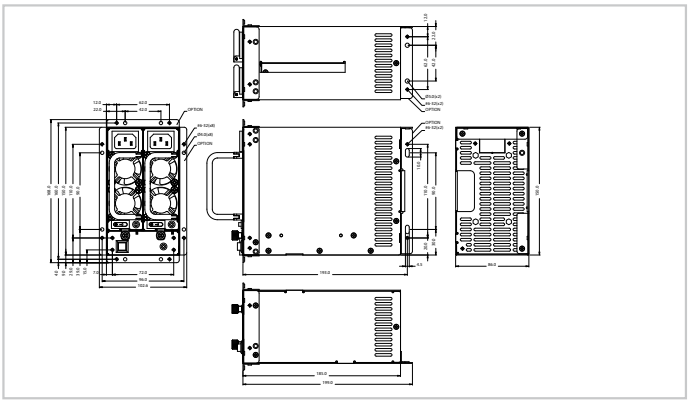
Features

1. RoHS compliant
2. High efficiency and reliability
3. Low noise and ripple
4. Meets ATX Specification v2.2, with 20+4-pin ATX power and SATA connectors
5. Overvoltage and overcurrent protection
6. Meets multiple safety standards and is EMC certified

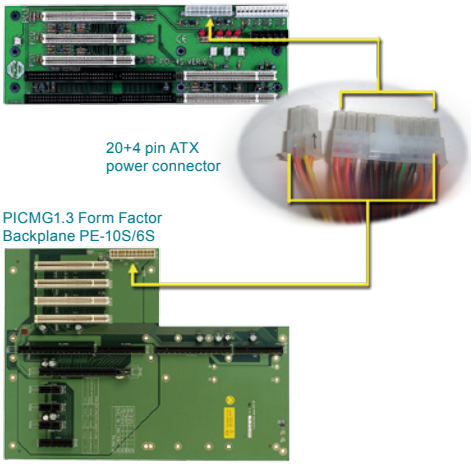
Specifications

Input	**Voltage**	90 ~ 264 VAC Full Range					
	Frequency	47 Hz ~ 63 Hz					
	Input Current	6 A (RMS) @110 VAC 3 A (RMS) @220 VAC					
	Inrush Current	60 A Max for 110 VAC 80 A Max for 220 VAC					
Output	**Voltage**	**Min. load**	**Max. load**	**Load Reg.**	**Line Reg.**	**Ripple & Noise**	
	+5 V	3 A	25 A	±5 %	±1 %	50mV P-P	
	+12 V	2 A	16 A	±7 %	±1 %	120mV P-P	
	-5 V	0 A	0.5 A	±10 %	±1 %	150mV P-P	
	-12 V	0 A	0.5 A	±10 %	±1 %	150mV P-P	
	+3.3 V	1 A	18 A	±5 %	±1 %	50mV P-P	
	+5 Vsb	0.1 A	2 A	±5 %	±1 %	60mV P-P	
	***Total current of +5 V and + 3.3 V not exceed 35 A** ***Total current of +5 V , +3.3 V and +12 V not exceed 282 W**						
	Overvoltage protection	+12 V : 13 V ~ 14.6 V +5 V : 5.7 V ~ 6.6 V +3.3 V : 3.9 V ~ 4.3 V					
	Short Circuit protection	Shut down and latch off					
General Specifications	**Watt**	300 W					
	PFC	Active					
	Hold-up time	16 ms Min.					
	Efficiency	65 % Min.					
	MTBF	160,000 hours					
	Temperature	Operating : 0 °C ~ 50 °C Storage : -20 °C ~ 80 °C					
	Dimensions	185 x 150 x 86 (mm) 7.28 x 5.91 x 3.39 (inch)					
	Output connector	20+4PIN ATX x1, 4PIN 12V CPU x1, HDD/ CDROM x8, FDD x2, SATA x2, Buzzer Reset x1, T.T.L signal x1, LED power x1					

Dimensions



PICMG1.0 Form Factor Backplane



Ordering Information

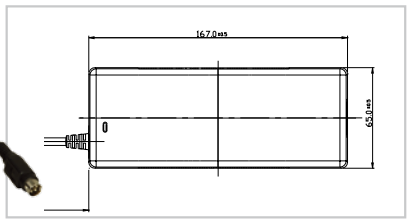
Part No.	Description
ACE-R4130AP-RS	300 W Mini Redundant ATX Power Supply, with PFC
ACE-R4130AP1-RS	300 W AC-DC ATX Redundant module, for ACE-R4130AP, with PFC

1 Industrial Computing Solutions
2 Embedded Computing Solutions
3 Industrial Data Collector and Controller
4 Video Capture Solutions
5 I/O Communication Solutions
6 Panel Solutions
7 ORing Network Communication
8 Power Supply/ Peripherals

FSP120AAB *120 W AC/DC Adapter*

120W

Dimensions



**Meet Eup

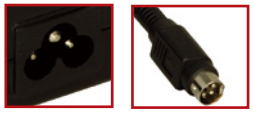
Specifications

- Input Voltage Range: 90-264 VAC
- Input Frequency: 47-63 Hz
- Output Voltage: 19 V
- Output Current: 6.32 A
- Output Watts: 120 W
- Efficiency: 86 %
- Operating Temperature: 0 °C ~ 40 °C
- Storage Temperature: -40 °C ~ 85 °C

Optional Cable

PN: CB-MD4P4-RS
16 cm cable for power mini-DIN connector adapter

Connector Type



Plug Type: Power mini-DIN(4P)

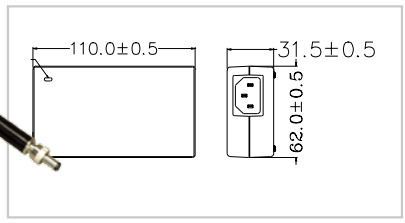
Ordering Information

Part No.	Description
63000-FSP120AAB-RS	19 V 120W Power adapter; 90~264 Vac input

FSP060DBAB1 *60 W AC/DC Adapter*

60W

Dimensions



**Meet Eup

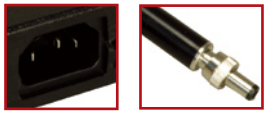
Specifications

- Input Voltage Range: 90-264 VAC
- Input Frequency: 47-63 Hz
- Output Voltage: 12 V
- Output Current: 5 A
- Output Watts: 60 W
- Efficiency: 87 %
- Operating Temperature: 0 °C ~ 40 °C
- Storage Temperature: -20 °C ~ 65 °C

Optional Cable

PN: CB-P1LP4-RS
20 cm cable for 5.5 X 2.5 DC Plug with screw

Connector Type



Plug Type: øin 2.5 mm / øout 5.5 mm

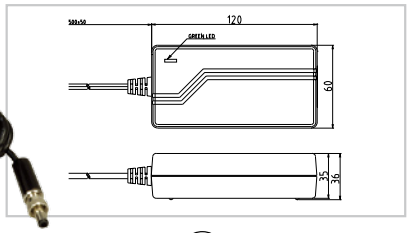
Ordering Information

Part No.	Description
6300-FSP060DBAB1552-RS	12 V 60W Power Adapter with lock screw 90~264 Vac input; Erp

UP0251E12PL *25 W AC/DC Adapter*

25W

Dimensions



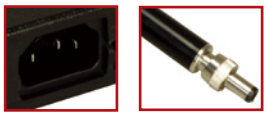
Specifications

- Input Voltage Range: 90-264 VAC
- Input Frequency: 47-63 Hz
- Output Voltage: 12 V
- Output Current: 2.1 A
- Output Watts: 25 W
- Efficiency: 85 %
- Operating Temperature: 0 °C ~ 40 °C
- Storage Temperature: -40 °C ~ 85 °C

Optional Cable

PN: CB-P1LP4-RS
20 cm cable for 5.5X2.5 DC Plug with screw

Connector Type



Plug Type: øin 2.5 mm / øout 5.5 mm

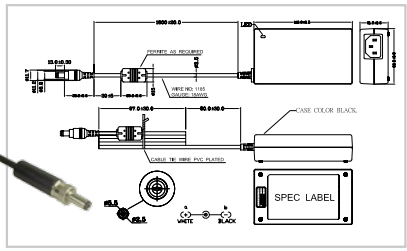
Ordering Information

Part No.	Description
63000-UP0251E12PL59-RS	12 V 25W power adapter with lock screw; 90~264 Vac input

FSP036RAB *36W AC/DC Adapter*

36W

Dimensions



**Meet Eup

R43001

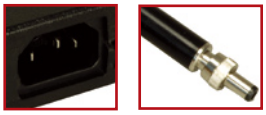
Specifications

- Input Voltage Range: 90-264 VAC
- Input Frequency: 47-63 Hz
- Output Voltage: 12 V
- Output Current: 3 A
- Output Watts: 36 W
- Efficiency: 84.7 %
- Operating Temperature: 0 °C ~ 40 °C
- Storage Temperature: -20 °C ~ 80 °C

Optional Cable

PN: CB-P1LP4-RS
20 cm cable for 5.5X2.5 DC Plug with screw

Connector Type



Plug Type: øin 2.5 mm / øout 5.5 mm

Ordering Information

Part No.	Description
6300-FSP036RAB610-RS	12V 36W Power adapter; 90~264VAC input; Erp