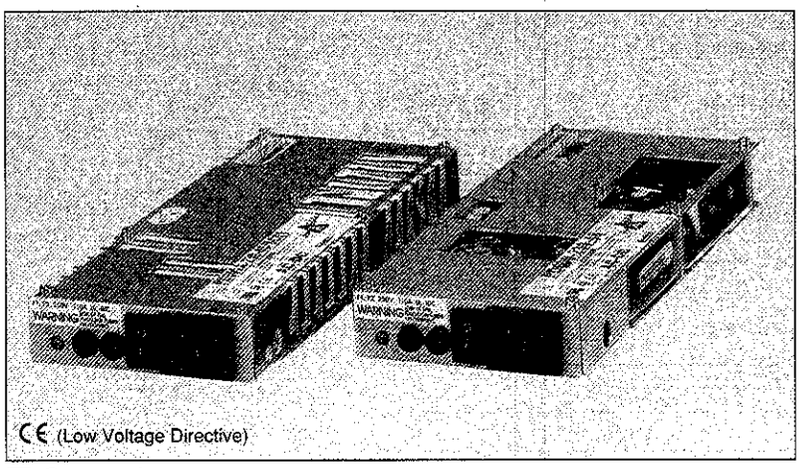
PD800A-SERIES AC-DC Front end power module

LAMBDA
DENSEI-LAMBDA



Features

- Wide Range Input 88 ~ 265VAC
- High efficiency 90% (typ)
- Conducted EMC : EN55022-A
- Power Factor Correction : EN61000-3-2
- Susceptibility : EN61000-4-2,-3,-4,-5,-6
- N+1 redundant parallel operation
- CE marking (Low Voltage Directive)

Safety approvals

UL1950
CSA950
EN60950

Power Module

General

With the PD Series, DENSEI-LAMBDA is presenting a revolutionary new concept of AC/DC converters.
Through its extreme compactness, an efficiency of 90% and the mechanical construction, these modules offers maximum in design flexibility.
All functions, including filtering, Power Factor Correction, AC/DC Conversion as well as monitoring and signal-generation are integrated into the modules. The size and form of these Power Modules makes it very simple to use as a basic component for a 3U, 6U or an individually built power supply.
Whatever size, form, physical interface and specification your system requires, the PD's will fit.
Your custom power supply is achieved by just putting 4 components together:
•PCB •PD-Module •Heatsink •Output-Connector
The PD-Serie meets all relevant EMC directives – and worldwide Telecom Standards.

Product line

Type	Model Name	Input (*1)	Max. Output Power at 187 ~ 265VAC (*1)	AC Inlet	AC Switch	Input Pins	Full Cover	Top Plate	Cooling	Outline Drawing
Standard	PD800A-230-48/C01	88 ~ 265VAC	50.5VDC 16.0A 808W	Yes	Yes	No	Yes	No	Forced Air Cooling	1
Optional Model	PD800A-230-48/SC01	88 ~ 265VAC	50.5VDC 16.0A 808W	Yes	No	No	Yes	No	Forced Air Cooling	1
	PD800A-230-48/P01	88 ~ 265VAC	50.5VDC 16.0A 808W	No	No	Yes	No	Yes	Forced Air Cooling	2
	PD800A-230-48	88 ~ 265VAC	50.5VDC 16.0A 808W	Yes	Yes	No	No	Yes	Forced Air Cooling	1
	PD600-230-48	88 ~ 265VAC	50.5VDC 12.0A 606W	Yes	Yes	No	No	Yes	Convection Cooling	1
	PD600-230-48/P01	88 ~ 265VAC	50.5VDC 12.0A 606W	No	No	Yes	No	Yes	Convection Cooling	2

*1. Output Power will vary depending upon input voltage. Refer to instruction manual.

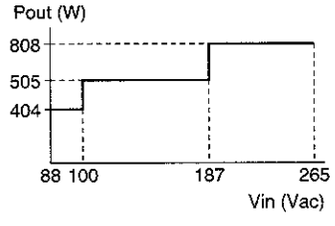
Specifications

Model	PD800A-230-48/C01 (Forced Air Cooling)			PD600-230-48 (Convection Cooling)		
1. Input Voltage range	100-240VAC		200-240VAC	100-240VAC		200-240VAC
	88 ~ 265VAC	100 ~ 265VAC	187 ~ 265VAC	88 ~ 265VAC	100 ~ 265VAC	187 ~ 265VAC
2. Nominal Output Voltage	50.5VDC	50.5VDC	50.5VDC	50.5VDC	50.5VDC	50.5VDC
3. Maximum Output Current	8.0A	10.0A	16.0A	8.0A	10.0A	12.0A
4. Maximum Output Power	404W	505W	808W	404W	505W	606W
5. Output Voltage Range	24.0 ~ 58.5V	24.0 ~ 58.5V	24.0 ~ 58.5V	24.0 ~ 58.5V	24.0 ~ 58.5V	24.0 ~ 58.5V
6. Bulk Power Supply	370VDC (typ) 1A max.		370VDC (typ) 2A max.	370VDC (typ) 1A max.		370VDC (typ) 1.5A max.
7. Efficiency (typ)	85%		90%	85%		90%
8. Input Current	5.5A		4.2A	5.5A		3.0A
9. Power Factor	0.95 (min.)		0.95 (min.)	0.95 (min.)		0.95 (min.)
10. Cooling	Fan Cooled (1.0m/sec. min.)			Convection cooled		
11. Operating Temperature	–20 ~ +85°C (Baseplate), –20 ~ +70°C (Ambient)			–20 ~ +85°C (Baseplate), –20 ~ +45°C (Ambient)		
12. Withstand Voltage	Input to output: 4.2kVDC for 1 min., Input to baseplate: 2.1kVDC for 1 min. Output to baseplate: 500VDC for 1 min.					
13. Functions	OVP, OCP, Remote sensing, Inverter good signal, Aux-Bias power supply (11-13V,30mA)					

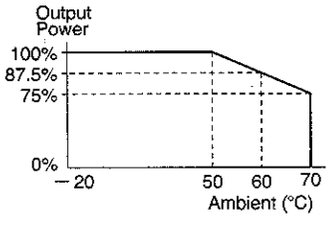
Output derating

PD800A-230-48/C01

Derating Curve A
at Baseplate Temp. ≦ 85°C
and Ambient Temp. ≦ 50°C

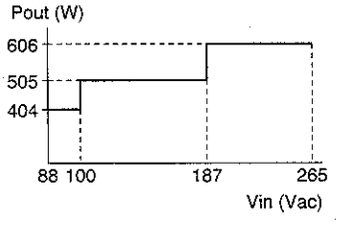


Derating Curve B
at Baseplate Temp. ≦ 85°C

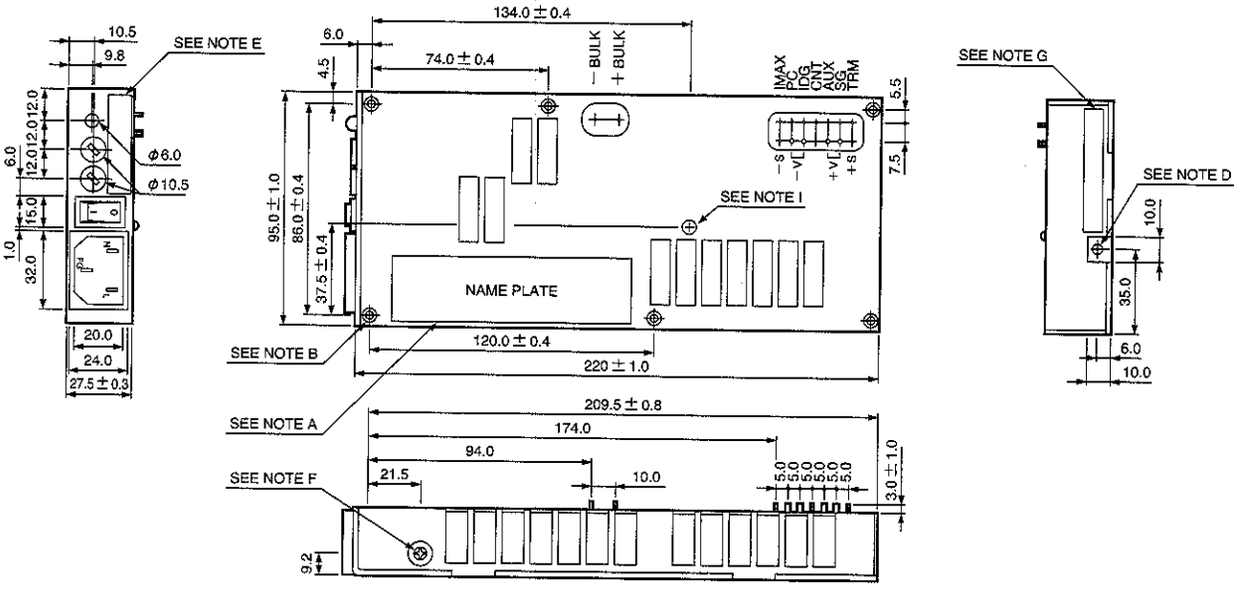


PD600-230-48

Derating Curve A
at Baseplate Temp. ≦ 85°C
and Ambient Temp. ≦ 45°C



■ Outline drawing 1



NOTE A : MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND SAFETY MARKS ARE SHOWN HERE IN ACCORDANCE.

NOTE B : 6XM3.0 TAPPED HOLES FOR CUSTOMER CHASSIS MOUNTING SCREWS MUST NOT PROTRUDE INTO POWER MODULE BY MORE THAN 10mm (FAR SIDE FOR HEATSINK).

NOTE C : INPUT AND OUTPUT TERMINALS

INPUT : IEC 320 C14 PLUG		
PRIMARY OUTPUT	:	2 – ø0.8
SECONDARY OUTPUT	:	4 – 1.4 X 1
	:	9 – ø0.8

RECOMMENDED CUSTOMER PCB HOLES :
FOR 11Xø0.8 PINS : USE 1.2mm HOLE SIZE
FOR 1.4X1 POWER PINS : USE 2mm HOLE SIZE
REFER TO INSTRUCTION MANUAL FOR DETAILS.

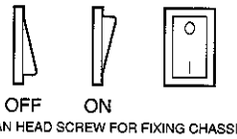
NOTE D : M4.0 TAPPED HOLES FOR PROTECTRIVE EARTH CONNECTION. SCREW MUST NOT PROTRUDE INTO POWER MODULE BY MORE THAN 6mm.

NOTE E : FUSE MARKING SEAL

NOTE F : REMOVE THIS M3 COUNTERSUNK SCREW TO CHECK POWER MODULE WITHSTAND VOLTAGE

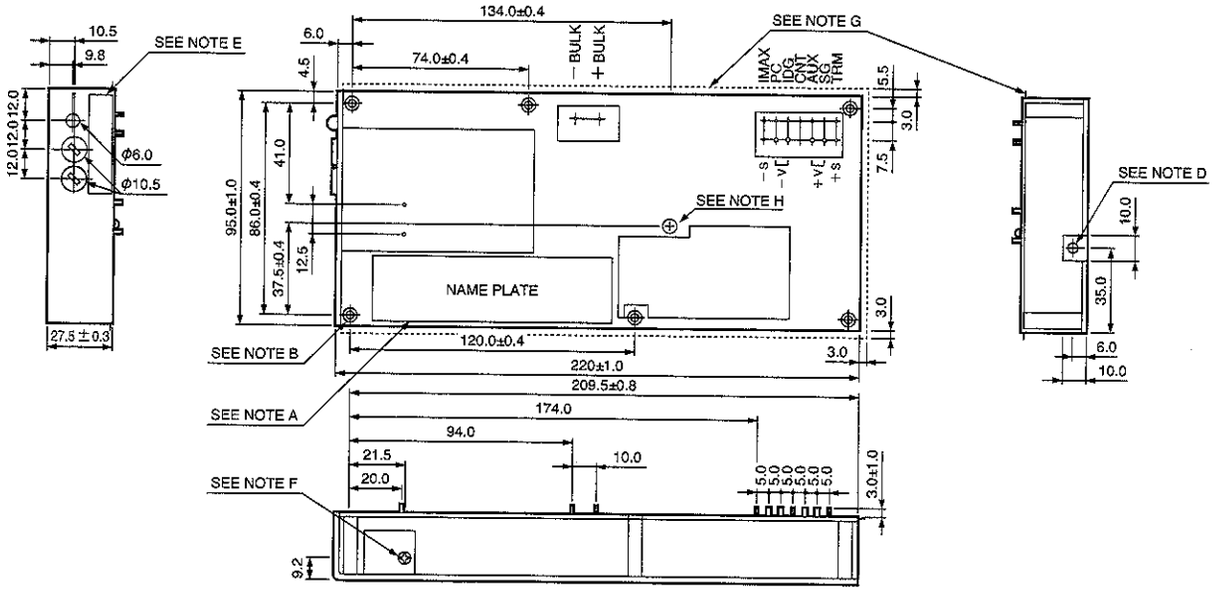
NOTE G : SERIAL NUMBER LABEL.

NOTE H : AC SWITCH ON/OFF INDICATION.



NOTE I: M3 PAN HEAD SCREW FOR FIXING CHASSIS, 8mm HOLE REQUIRED ON CUSTOMER PCB.

■ Outline drawing 2



NOTE A : MODEL NAME, INPUT VOLTAGE RANGE, NOMINAL OUTPUT RANGE, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT, COUNTRY OF MANUFACTURE AND SAFETY MARKS ARE SHOWN HERE IN ACCORDANCE.

NOTE B : 6XM3.0 TAPPED HOLES FOR CUSTOMER CHASSIS MOUNTING SCREWS MUST NOT PROTRUDE INTO POWER MODULE BY MORE THAN 10mm (FAR SIDE FOR HEATSINK).

NOTE C : INPUT AND OUTPUT TERMINALS

INPUT	:	2 – ø1.6
PRIMARY OUTPUT	:	2 – ø0.8
SECONDARY OUTPUT	:	4 – 1.4 X 1
	:	9 – ø0.8

RECOMMENDED CUSTOMER PCB HOLES :
FOR 2Xø0.6 PINS : USE 2.0mm HOLE SIZE
FOR 11Xø0.8 PINS : USE 1.2mm HOLE SIZE
FOR 1.4X1 POWER PINS : USE 2mm HOLE SIZE
REFER TO INSTRUCTION MANUAL FOR DETAILS.

NOTE D : M4.0 TAPPED HOLES FOR PROTECTIVE EARTH CONNECTION. SCREW MUST NOT PROTRUDE INTO POWER MODULE BY MORE THAN 6mm.

NOTE E : FUSE MARKING SEAL

NOTE F : REMOVE THIS M3 COUNTERSUNK SCREW TO CHECK POWER MODULE WITHSTAND VOLTAGE

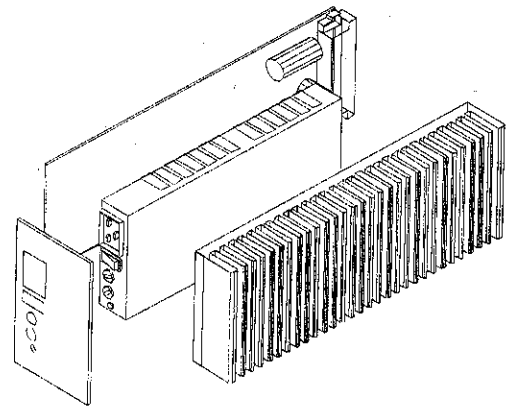
NOTE G : NOMEX INSULATOR FOR PRIMARY TO GROUND CREEPAGE AND CLEARANCE.

NOTE H : M3 PAN HEAD SCREW FOR FIXING CHASSIS, 8mm HOLE REQUIRED ON CUSTOMER PCB.

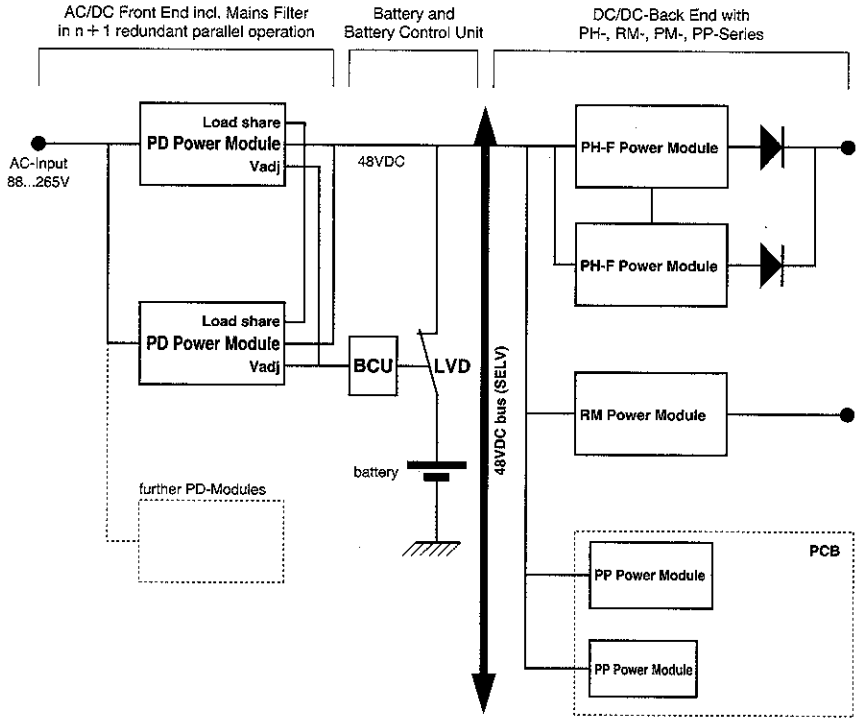
■ Operation status indicator on the module front side

Medium	Color	Status
Multicolor LED	Green	Constant voltage mode
	Red	Constant current mode
	Orange	Constant power operation
	Light Green	Remote off

■ PC board mounting & heat sink



■ System application



DC BACK END

PH SERIES 50-600WATT, 2. . .48V O/P
N + 1 Redundant parallel operation
High efficiency
High density

RM SERIES 30-100WATT, 2, 3.3, 5V O/P
90% efficiency
Soft start
No Heatsink
Low profile

PP SERIES 1.5-25 WATT, 5. . .15V O/P
Low profile
Wide Input range
High efficiency

FRONT END
PD SERIES 600W (mounting on board)
Features:

500 Watt at	88. . .265VAC Input
800 Watt at	187. . .265VAC Input
PFC:	EN61000-3-2
EMI:	EN55022 A
	EN61000-4-2,3,4,5
meets	VDE 0160 W2 Transient
High efficiency	90%
N + 1 parallel operation	

PLEASE REFER TO INSTRUCTION MANUAL ON CIRCUIT DESIGN, PCB DESIGN, THERMAL DESIGN AND INSTALLATION FOR PRACTICAL APPLICATION.

* Please ask our nearest sales office more in detail for application such as installation or thermal designing.