

AC-DC Slim Type Front-End Power Supply



August 2023, Rev. 01

AC-DC Slim Type Front-End Power Supply



Delta AC-DC Slim Type Front-End power supply accepts a wide range 90–264 V_{AC} input and provides a main 12 V output plus a 5V or 12V standby output.

Rated at 800 and 1000 watts it has a high peak efficiency of 94%.

Housed in a slimline 1U high, up to 2.1 inch wide rack mount enclosure, the power supply is primarily designed for enterprise servers and similar applications.

FEATURES

- Meets 80 PLUS Platinum Efficiency
- 12V Main Output
- 12V or 5V Standby Output
- 1U Height
- Redundant (N+1) Operation
- Power Factor Correction
- Overvoltage, Overcurrent, Overtemperature Protection
- Remote on/off Control
- Remote Sense
- Internal Cooling Fan (variable speed)
- PMBus 1.2 Support
- RoHS Compliant
- Three Year Warranty



Model Number	DPS-800AB-64 C	DPS-1000AB-14 G
Description	Slim Type 800W Platinum	Slim Type 1 KW Platinum
Input Voltage Range (V _{AC})	90 ~ 264	
Main Output Voltage (V _{DC})	+12V	
Main Output Rated Current (A)	65.57	83.3
Standby Output Voltage (V _{DC})	+5VSB	+12VSB
Standby Output Rated Current (A)	3	
Rated Power (W)	800W	1000W
AC Input Current (A)	100 ~ 127 V _{AC} : <10 200 ~ 240 V _{AC} : <5.5	100 ~ 127 V _{AC} : <11 200 ~ 240 V _{AC} : <5.5
Inrush Current (A)	230 V _{AC} <40	230 V _{AC} <30
Efficiency (%)	>94 @ 50% load	
Input Characteristics		
Frequency	47 ~ 63 Hz	
Power Factor	>0.98 @ 50% load	
Leakage Current	<3.5 mA for DPS-800AB-64 C <1.5 mA for DPS-1000AB-14 G	
Output Characteristics		
Ripple & Noise*	12V: <200 mVp-p for DPS-800AB-64 C, <120 mVp-p for DPS-1000AB-14 G 5VSB: <50 mVp-p for DPS-800AB-64 C, 12VSB: <120 mVp-p for DPS-1000AB-14 G	
Voltage Regulation	12V: ±5% 5VSB/12VSB: ±5%	
Rise Time	<50 ms	
Hold Up Time (70% load)	>10 ms (75% load) for DPS-800AB-64 C >20 ms (90% load) for DPS-1000AB-14 G	

* Ripple & Noise measurement bandwidth is 0-20MHz, with 10 μF, ceramic capacitor and 1 μF ceramic capacitor.

AC-DC Slim Type Front-End Power Supply

Protections		
Over Current	If the current limits are exceeded, the power supply shuts down and latches off. The latch will be cleared by toggling the PSON# signal or by an AC power interruption. The power supply will not be damaged from repeated power cycling in this condition. Standby will be auto-recovered after removing OCP limit.	
	Model Number	DPS-800AB-64 C
	Output Voltage	Over Current Limit
	+12V	73.5A ~ 83.3A
	+5 VSB for DPS-800AB-64 C	3.5A ~ 4.8A
+12 VSB for DPS-1000AB-14 G	3.5A ~ 4.8A	
Over Voltage	12V: 13.0~15 & 5VSB: 5.7~6.5 for DPS-800AB-64 C	
	12V: 13.0~14.5 & 12VSB: 13.0~14.5 for DPS-1000AB-14 G	
	Shutdown and latch off	
Over Temperature	Shutdown	
Environmental Specifications		
Operating Temperature Range	0~55°C for DPS-800AB-64 C, 0~55°C / NEBS: 61°C for DPS-1000AB-14 G	
Storage Temperature Range	-40 ~ 70 °C	
Storage Humidity	5 ~ 90 %	
Altitude	<5000 m	
MTBF (230V _{AC})	100,000 hours at 75% load and 40°C , as calculated by Bell core RPP or 250000 hours demonstrated at 75% load and 40°C for DPS-800AB-64 C	
	100,000 hours for DPS-1000AB-14 G	
Dimension	236.6*54.5*40mm for DPS-800AB-64 C	
	240*50.5*40mm for DPS-1000AB-14 G	
Safety		
Safety Approvals	TUV+CB, UL&cUL, CCC, CE, BSMI, KC, BIS for DPS-800AB-64 C UL/cUL,TUV,CB,CE,CCC,AS/NZ,Russia,KCC,IEC 62368 for DPS-1000AB-14 G	
EMC Emission	EN55032 Class A for DPS-800AB-64 C	
	EN55032 Class A & EN61000-3-2,-3 for DPS-1000AB-14 G	
EMC Immunity	EN61000-4-2,3,5 for DPS-800AB-64 C	
	EN55024 & EN61000-4-2,3,4,5,6,8,11 for DPS-1000AB-14 G	
Function		
PG signal (PW OK)	Active TTL high when output is within regulation limits	
PS-ON signal	The output will be enabled when this signal is pulled low, outputs disabled when pin is driven high or left open	
Remote Sense	+/-200 mV	
LED Indicator States		
Power Supply Condition	LED State	
	DPS-800AB-64 C	DPS-1000AB-14 G
Normal Operation, Output ON	Green	Green
No AC power to all power supplies	Off	Off
AC present / Only 12 VSB on (PS off) or PS in Smart On state	1 Hz Blink Green	1 Hz Blink Green
AC cord unplugged or AC power lost; with a second power supply in parallel still with AC input power	Red	1 Hz Blink Amber
Power supply warning events where the power supply continues to operate; high temp, high power, high current, slow fan	1 Hz Blink Red	—
Power supply critical event causing a main output shutdown; failure, OCP, OVP, Fan Fail	Red	—
Power Supply Fail, PFC side OK, or Fan Fail	—	Amber
Power Supply Fail, PFC side Fail	—	Amber + 2 Hz Blink Green
Power Supply Warning	—	0.5 Hz Blink Amber/Green *

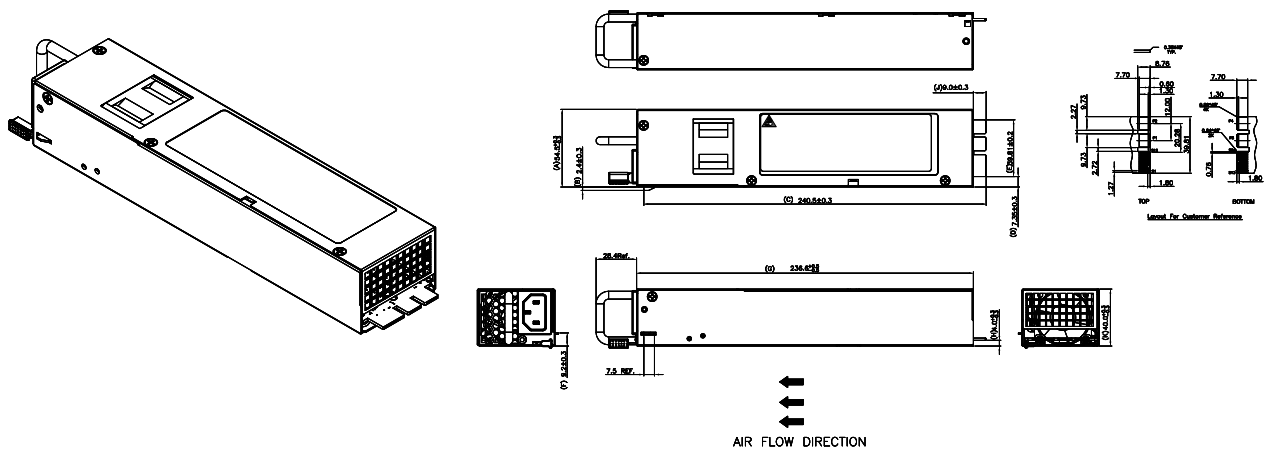
* Amber and Green 0.5 sec on and 0.5 sec off separately and sequentially in two seconds

AC-DC Slim Type Front-End Power Supply

Mechanical Drawing

DPS-800AB-64 C

AC INLET		IEC 60320 C-14
RISER CARD (mm)	Height	4
OUTPUT CONNECTOR		card edge
MATING CONNECTOR		ALLTOP C21401-101H5-L



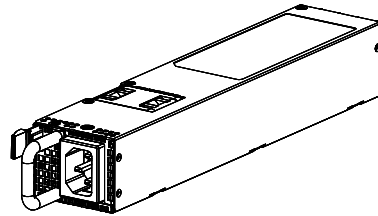
Output Pin Assignment

PIN	DESCRIPTION	PIN	DESCRIPTION
S1	N/A	S15	12 LS
S2	PS-PRNT	S16	ALERT
S3	A0	S17	SDA
S4	N/A	S18	SCL
S5	N/A	S19	PS_KILL
S6	SMART_ON	S20	PS_ON
S7	N/A	S21	PSW_OK
S8	N/A	S22	A1
S9	N/A	S23	+5VSB
S10	N/A	S24	+5VSB
S11	5VSB	P1	COM
S12	5VSB	P2	COM
S13	12VRS+	P3	+12V
S14	12VRS-	P4	+12V

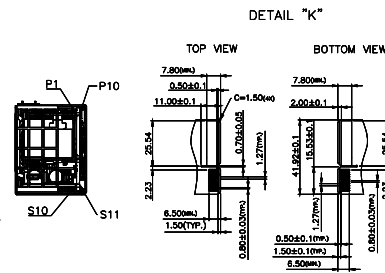
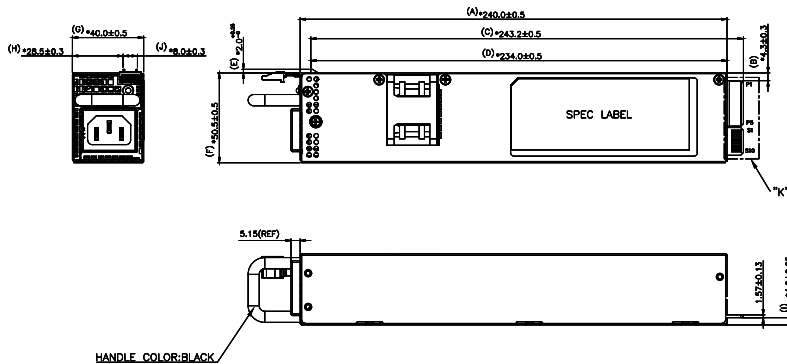
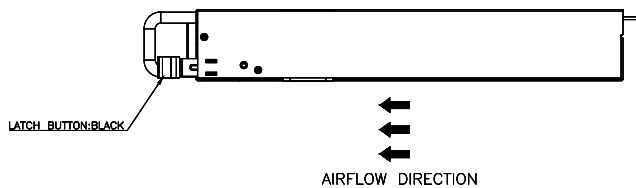
AC-DC Slim Type Front-End Power Supply

Mechanical Drawing

DPS-1000AB-14 G



AC INLET		IEC 320-C14
RISER CARD (mm)	Height	4
OUTPUT CONNECTOR		card edge
MATING CONNECTOR		FCI 10139371-1020BLF or FCI 10137755-001020ALF



Output Pin Assignment

PIN	DESCRIPTION	PIN	DESCRIPTION
P1	GND	S6	NA
P2	GND	S7	VS
P3	GND	S8	+12VRS
P4	GND	S9	+12VRS-
P5	GND	S10	12LS
P6	+12V	S11	PS_KILL
P7	+12V	S12	SMART_ON
P8	+12V	S13	PWOK
P9	+12V	S14	SMB_ALERT
P10	+12V	S15	SCL
S1	+12VSB	S16	SDA
S2	+12VSB	S17	A0
S3	12VRS+	S18	A1
S4	PSON	S19	12VSB
S5	PRESENT	S20	12VSB

August 2023, Rev. 01