

AC-DC CRPS

Front-End Power Supply



AC-DC CRPS Front-End Power Supply



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

Rated between 550 and 1300 watts, it has a high peak efficiency of 94%.

Housed in a 1U high, 2.9inch 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 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



*DPS-550AB-47 A only

Model Number	DPS-550AB-47 H	DPS-900AB-6 B	DPS-1300AB-21 N
Description	CRPS 550W Platinum	CRPS 900W Platinum	CRPS 1.3KW Platinum
Input Voltage Range (V _{AC})	90~264		
Main Output Voltage (V _{DC})	+12V		
Main Output Rated Current (A)	45.8	75	200~240V _{AC} : 108 100~127V _{AC} : 84
Standby Output Voltage (V _{DC})	+12VSB		
Standby Output Rated Current (A)	3 ; Peak: 3.4 (20 S)		
Rated Power (W)	550W	900W	1300 (HL) 1000 (LL)
AC Input Current (A)	100~127V _{AC} : <7.1 200~240V _{AC} : <3.4	100~127V _{AC} : <11 200~240V _{AC} : <5.5	100~127V _{AC} : <12 200~240V _{AC} : <8
Inrush Current (A)	230V _{AC} <35		
Efficiency (%)	>94 @ 50% load		

Input Characteristics

Frequency	47~63 Hz
Power Factor	>0.98 @ 50% load
Leakage Current	<0.875 mA

Output Characteristics

Ripple & Noise*	12V: <120 mVp-p 12VSB: <120 mVp-p
Voltage Regulation	12V: ±5% 12VSB: ±5%
Rise Time	<70 ms for DPS-550AB-47 H & DPS-1300AB-21 N only <50 ms for DPS-900AB-6 B only
Hold Up Time (70% load)	>10 ms

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

AC-DC CRPS Front-End Power Supply

Protections

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. 12 VSB will be auto-recovered after removing OCP limit.

Over Current

Model Number	DPS-550AB-47 H	DPS-900AB-6 B	**	DPS-1300AB-21 N			
	Over Current Limit	Over Current Limit	OCP Delay Time		Low Line Loading Condition	High Line Loading Condition	OCP Delay Time
OC Warning (SMBAlert#) for +12V	53A~55A	86A~94A	15~50 ms	OCW2	88A~92A	116A~121A	15~50 ms
OCP2 for +12V	55A~59A	86A~104A	50~100 ms	OCP2	96A~104A	124A~135A	50~100 ms
OCP1 for +12VSB	3.6A~4.5A	3.6A~4.5A	>10 ms (hiccup mode)	OCW1	110A~141A	140A~185A	<20 us
				OCP1	142A~150A	185A~200A	10~100 us

** For DPS-550AB-47 H & DPS-900AB-6 B

Over Voltage

12V: 13.0~14.5

12VSB: 13.0~14.5

Shutdown and latch off

Over Temperature

Shutdown

Environmental Specifications

Operating Temperature Range 0~55°C / for NEBS: 61°C

Storage Temperature Range -40~70°C

Storage Humidity 5~90%

Altitude <5000 m

MTBF (230 V_{AC}) 250,000 (75% load and 55°C by Telcordia SR332) for DPS-550AB-47 H

200,000 (80% load and 50°C by Telcordia SR332) for DPS-900AB-6 B

250,000 (75% load and 55°C by Telcordia SR332) for DPS-1300AB-21 N

Dimension 185*73.5*40 mm

Safety

Safety Approvals TUV+CB, UL&cUL, CCC, CE, BSMI, KC, BIS, EAC for DPS-550AB-47 H
TUV, CB, UL, CCC, KCC, BSMI, KC, BIS for DPS-900AB-6 B & DPS-1300AB-21 N

EMC Emission EN55022 (CISPR22) Class A, EN61000-3-2, -3

EMC Immunity EN55024, EN61000-4-2,3,4,5,6,8,11

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

SMBAlert Signal Signal high when power supply is operating normally

Signal low when error occurs. (Ex: AC line loss for more than 2 ms)

Remote Sense +/-200 mV

LED Indicator States

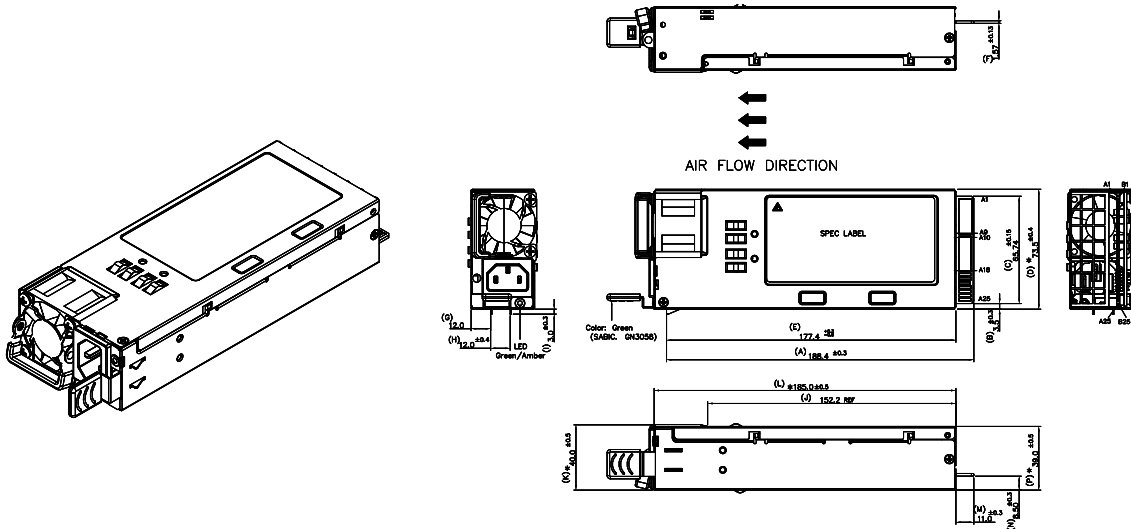
Power Supply Condition	LED State	
	DPS-550AB-47 H DPS-1300AB-21 N	DPS-900AB-6 B
Normal Operation, Output ON	Green	Green
No AC power to all power supplies	Off	Off
AC present / Only 12VSB on (PS off) or PS in Smart On state	1 Hz Blink Green	1 Hz Blink Green
AC cord unplugged or AC power lost; with a second power supply in parallel still with AC input power	Amber	Red
Power supply warning events where the power supply continues to operate; high temp, high power, high current, slow fan	1 Hz Blink Amber	1 Hz Blink Red
Power supply critical event causing a main output shutdown; failure, OCP, OVP, Fan Fail	Amber	Red
Power Supply FW updating	2 Hz Blink Green	2 Hz Blink Green

AC-DC CRPS Front-End Power Supply

Mechanical Drawing

DPS-550AB-47 H

AC INLET		IEC 320-C14
RISER CARD (mm)	Height	8.5
OUTPUT CONNECTOR		2x25 Power Card Edge
MATING CONNECTOR		ALLTOP P/N: C21037-101H3-Y, AMPHENOL P/N: GPCEFX361411HHR or equivalent



Output Pin Assignment

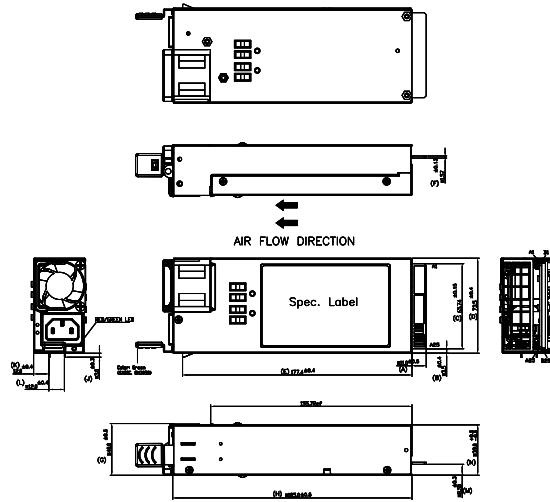
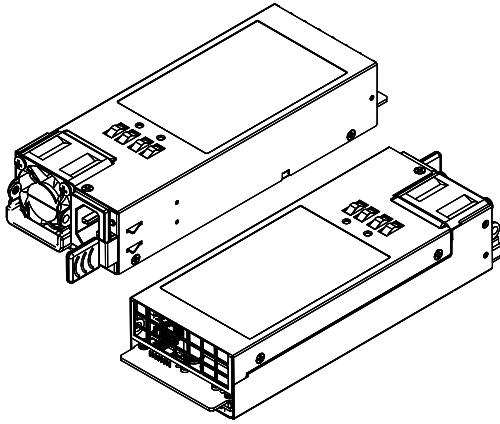
PIN	SIGNAL NAME	PIN	SIGNAL NAME
A1	GND	B1	GND
A2	GND	B2	GND
A3	GND	B3	GND
A4	GND	B4	GND
A5	GND	B5	GND
A6	GND	B6	GND
A7	GND	B7	GND
A8	GND	B8	GND
A9	GND	B9	GND
A10	+12V	B10	+12V
A11	+12V	B11	+12V
A12	+12V	B12	+12V
A13	+12V	B13	+12V
A14	+12V	B14	+12V
A15	+12V	B15	+12V
A16	+12V	B16	+12V
A17	+12V	B17	+12V
A18	+12V	B18	+12V
A19	SDA	B19	A0 (SMBus address)
A20	SCL	B20	A1 (SMBus address)
A21	PSON #	B21	+12Vsb
A22	SMBAlert #	B22	SMART_ON
A23	Return Remote Sense	B23	+12VLS
A24	+12V Remote Sense	B24	NC
A25	PWOK	B25	NC

AC-DC CRPS Front-End Power Supply

Mechanical Drawing

DPS-900AB-6 B

AC INLET		IEC 320-C14
RISER CARD (mm)	Height	8.5
OUTPUT CONNECTOR		2x25 Power Card Edge
MATING CONNECTOR		ALLTOP P/N: C21037-101H3-Y, AMPHENOL P/N: GPCEFX361411HHR or equivalent



Output Pin Assignment

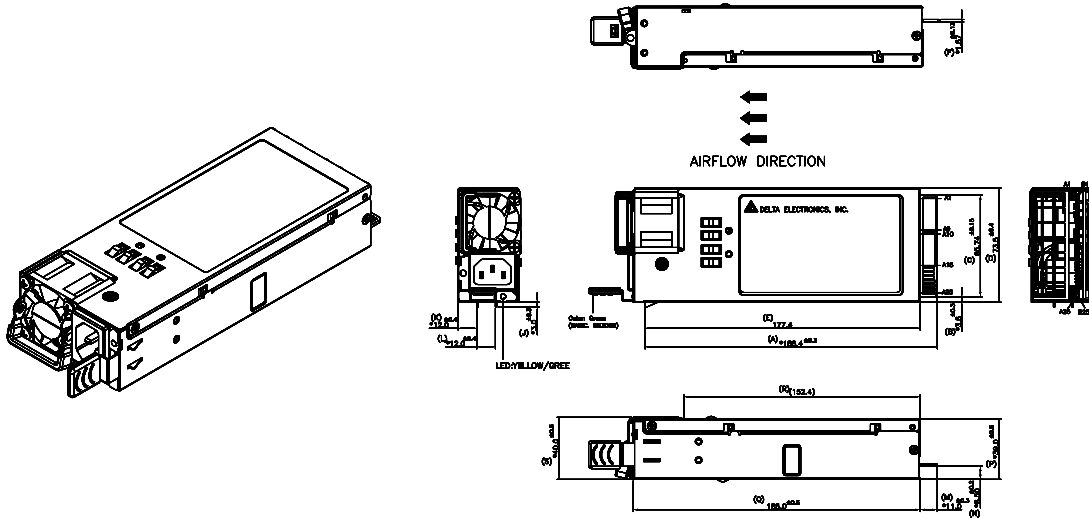
PIN	SIGNAL NAME	PIN	SIGNAL NAME
A1	GND	B1	GND
A2	GND	B2	GND
A3	GND	B3	GND
A4	GND	B4	GND
A5	GND	B5	GND
A6	GND	B6	GND
A7	GND	B7	GND
A8	GND	B8	GND
A9	GND	B9	GND
A10	+12V	B10	+12V
A11	+12V	B11	+12V
A12	+12V	B12	+12V
A13	+12V	B13	+12V
A14	+12V	B14	+12V
A15	+12V	B15	+12V
A16	+12V	B16	+12V
A17	+12V	B17	+12V
A18	+12V	B18	+12V
A19	SDA	B19	A0
A20	SCL	B20	A1
A21	PSON #	B21	+12VSB
A22	SMBAlert #	B22	SMART_ON
A23	RS-	B23	+12VLS
A24	RS+	B24	N/C
A25	PWOK	B25	N/C

AC-DC CRPS Front-End Power Supply

Mechanical Drawing

DPS-1300AB-21 N

AC INLET		IEC 320-C14
RISER CARD (mm)	Height	8.5
OUTPUT CONNECTOR		2x25 Power Card Edge
MATING CONNECTOR		ALLTOP P/N: C21037-101H3-Y, AMPHENOL P/N: GPCEF361411HHR or equivalent



Output Pin Assignment

PIN	SIGNAL NAME	PIN	SIGNAL NAME
A1	GND	B1	GND
A2	GND	B2	GND
A3	GND	B3	GND
A4	GND	B4	GND
A5	GND	B5	GND
A6	GND	B6	GND
A7	GND	B7	GND
A8	GND	B8	GND
A9	GND	B9	GND
A10	+12V	B10	+12V
A11	+12V	B11	+12V
A12	+12V	B12	+12V
A13	+12V	B13	+12V
A14	+12V	B14	+12V
A15	+12V	B15	+12V
A16	+12V	B16	+12V
A17	+12V	B17	+12V
A18	+12V	B18	+12V
A19	SDA	B19	A0
A20	SCL	B20	A1
A21	PSON #	B21	+12VSB
A22	SMBAlert #	B22	SMART_ON
A23	RS-	B23	+12VLS
A24	RS+	B24	PRESENT_N #
A25	PWOK	B25	ACFAIL



More Information

Computer and Network Business Unit (CNBU)

www.Deltaww.com | PSChannelSales@deltawww.com

2023 - All information and specifications are subjected to change without prior notice.

© 2023 Delta Electronics, Inc. All Right Reserved.

August 2023, Rev. 01 | P5