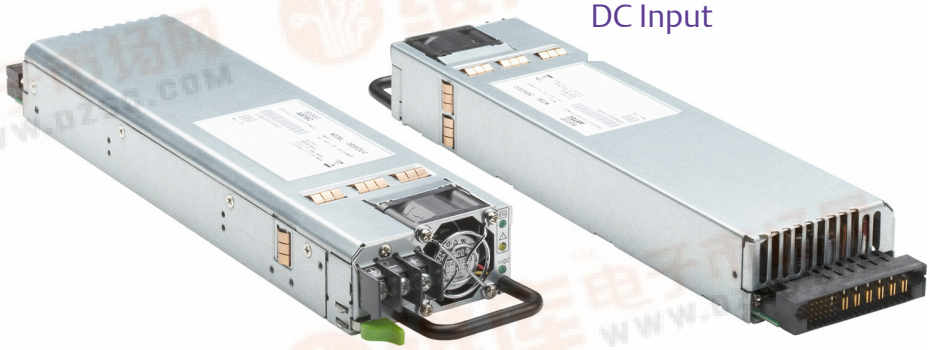
Embedded Power for
Business-Critical Continuity

DS450DC-3/ DS550DC-3

450 - 550 Watts
Distributed Power System

Distributed Power Bulk Front-End
Total Output Power: 450 - 550 Watts
+12Vdc main Output
+3.3vdc Stand-by Output
DC Input 40 - 75 Vdc



DC Input

Connector input shown

Special Features

- 1U X 2U Form Factor
- 10.3W / in³ (DS550)
  8.4W / in³ (DS450)
- +12vdc Output
- +3.3vdc Stand-By
- No Minimum Load Required
- Hot Plug Operation
- N + 1 Redundant
- Internal OR'ing Fets
- Active Current Sharing
- Built-in Cooling Fans
  (40mm x 28mm)
- I²C Communication Interface Bus
- EERPOM for FRU Data
- Amber LED Status, Fan_Fail
- Green LED Status, Power Good / DC_OK Status (VIN_GOOD)
- Internal Fan Speed Control
- Fan Fail Tach Output Signal
- One Year Warranty

Safety

- UL/cUL 60950 (UL Recognized)
- NEMKO+ CB Report EN60950
- EN60950
- CE Mark
- China CCC

Electrical Specifications

Input	
Input range:	40-75 Vdc
Frequency:	DC input
Inrush current:	21A maximum
Efficiency:	EVT: 87% @ 72 Vdc; 87.4% @ 75 Vdc
Conducted EMI:	FCC Subpart J EN55022 Class A
Radiated EMI:	FCC Subpart J EN55022 Class A
Power factor:	N/A
Leakage current:	N/A No touch current required.
Hold up time:	1ms minimum
Output	
Main DC voltage:	+12 V
Stand-By:	+3.3 vsb
Adjustment range:	Factory Set, no pot adjustments
Regulation:	+12 Vdc; +5%/-5% +3.3 vsb; +5%/-5%
Over current:	See Table 1 next page
Over voltage:	+12 Vdc; 13.5 - 15 Vdc +3.3 vsb; 3.76 - 4.30 Vdc
Under voltage:	+12 Vdc; 10.5 V - 11.0 V +3.3 vsb; 2.77 - 3.00 Vdc
Turn-on delay :	<3 seconds, EVT: 2 seconds
+12v Output Rise Time	3 - 300 mS

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Logic Control	
PS_ON/L (Power supply enable)	The power supply output will be enabled when this signal is pulled low (<0.8 V). HIGH = Output V1 OFF LOW = Output V1 ON
VIN_GOOD/H (Input OK)	Active High signal asserted when the input voltage rises above the min input voltage specified. This signal is internally pulled up through 4.7 K ohms to the 3.3 V housekeeping voltage.
POK/H (Output OK)	Active High signal asserted when the output is within regulation. This signal is internally pulled up through 1.0 K ohms to the 3.3 V housekeeping voltage.
TACH_1	This open collector signal generates two pulses per each fan revolution. This signal is eternally pulled up to the housekeeping voltage.
PS_KILL	This signal will cause the output to shut down when drive high (>24 V) or left floating. The PS_KILL will cause the output to latch off and requires recycle of PS_ON or DC input to reset.
Digital Control	PMBus - I^2C compliant

Environmental Specifications

Operating temperature:	+10° to 45°C (50% power derating at 70°C)
Storage temperature:	-40°C to +70°C
Altitude, operating:	10,000ft.
Electromagnetic susceptibility / Input transients:	-EN61000-3-2, -3-3 -EN61000-4-2, 4.3, 4-4, -4-5, 4-11 Level -EN55024:1998
RoHS & lead-free compliant (no tantalum caps.)	
Humidity:	20 to 90% RH, non-condensing
Shock and vibration specificatons complies with Astec Std. Specifications, Q3205	
MTBF (observed)	500K Hrs at 80%, 40°C

Table 1

Ordering Information

Output	Nominal Output Voltage Set Point	Set Point Tolerance	Total Regulation	Minimum Current	Maximum Current	Output Ripple P/P	Over Current	Options
DS450DC-3	12.0vdc 3.3vsb	±0.2% ±1%	+5 / -3% +5 / -4%	0A 0A	37.0A 3.0A	120mV 60mV	39.5 - 44.4% 4.9A Avg, 7A max	Standard
DS450DC-3-002	12.0vdc 3.3vsb	±0.2% ±1%	+5 / -3% +5 / -4%	0A 0A	37.0A 3.0A	120mV 60mV	39.5 - 44.4% 4.9A Avg, 7A max	Reverse Air
DS550DC-3	12.0vdc 3.3vsb	±0.2% ±1%	+5 / -3% +5 / -4%	0A 0A	45.0A 3.0A	120mV 60mV	48.0A - 54.0A 4.9A Avg, 7A max	Standard
DS550DC-3-003	12.0vdc 3.3vsb	±0.2% ±1%	+5 / -3% +5 / -4%	0A 0A	45.0A 3.0A	120mV 60mV	48.0A - 54.0A 4.9A Avg, 7A max	Reverse Air

*Over current latches off if overcurrent lasts over 1 seconds, otherwise it is auto recovery.
*For 5vsb, consult marketing.

Mechanical Drawing

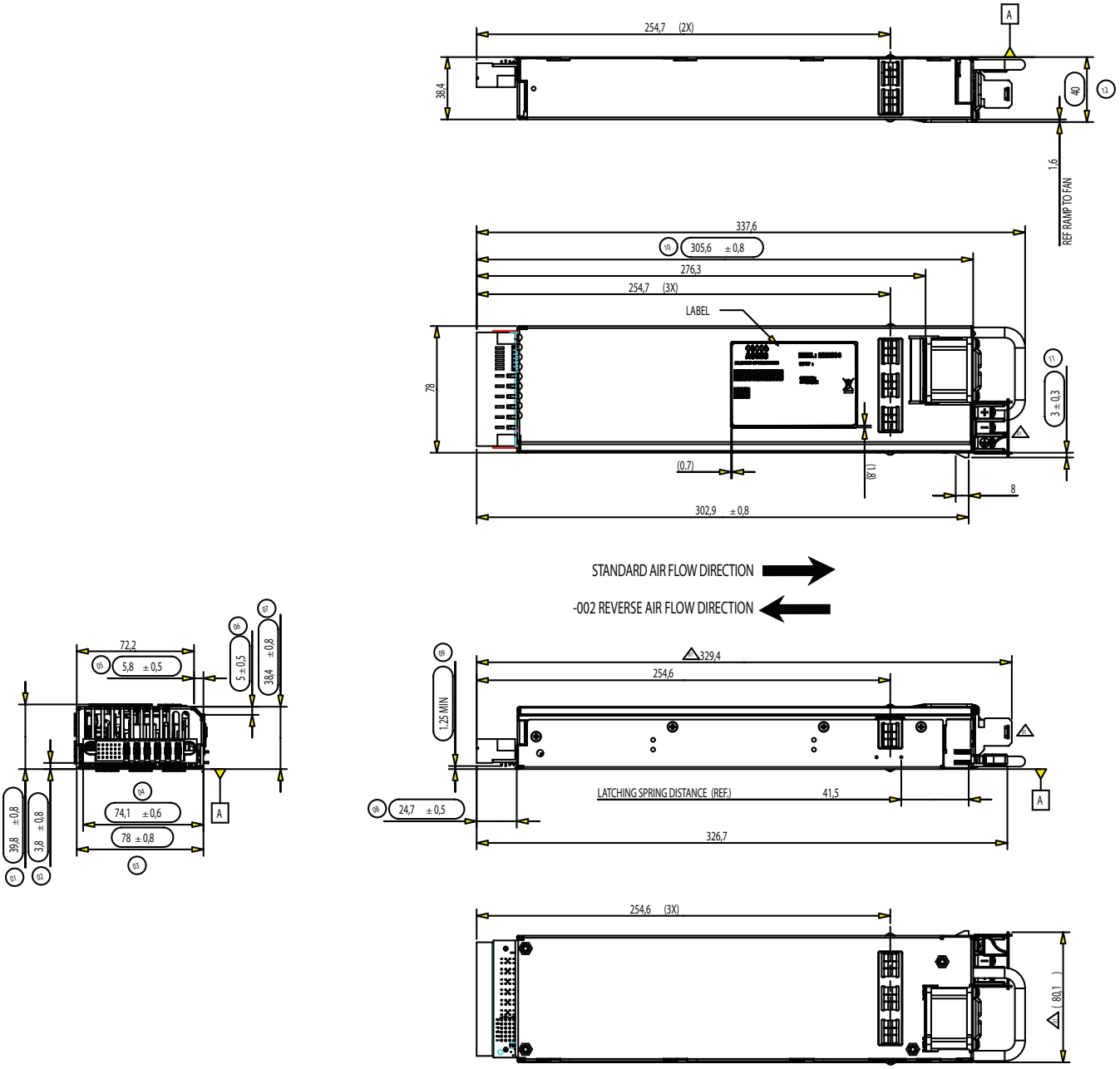

Table 2

DC Output Connector Pinout Assignment

Male connector as viewed from the rear of the supply:

D1	D2	D3	D4	D5	D6	PB1	PB2	PB3	PB4	PB5	PB6
C1	C2	C3	C4	C5	C6						
B1	B2	B3	B4	B5	B6						
A1	A2	A3	A4	A5	A6						

P1 - Power Supply Side

1. FCI Power Blade 51721 series
   51721-10002406AA

2. Molex Power Connector
   SD-87667 series
   87667-7002

Mating Connector (System Side)

1. FCI Power Blade
   51741-10002406CC
   Strait Pins

2. FCI Power Blade
   51761-10002406AA
   Right Angle

Pin	Signal Name
PB 1	+12V RETURN
PB 2	+12V RETURN
PB 3	+12V RETURN
PB 4	+12V
PB 5	+12V
PB 6	+12V
A1	PS_KILL
A2	+12V CURRENT SHARE
A3	LOGIC RETURN
A4	+3V3 STAND-BY
A5	A0 (I2C Address BIT 0 Signal)
A6	+3V3 STAND-BY
B1	LOGIC RETURN
B2	SPARE
B3	LOGIC RETURN
B4	+3V3 STAND-BY
B5	SDA (I2C Data Signal)
B6	PSON (Power Enable Signal)
C1	LOGIC RETURN
C2	TACH 1 (Fan Fail Signal)
C3	LOGIC RETURN
C4	+3V3 STAND-BY
C5	SCL (I2C Clock Signal)
C6	VIN_GOOD (AC Input Present)
D1	-PS_PRESENT (Power Supply Seated)
D2	SPARE
D3	LOGIC RETURN
D4	+3V3 STAND-BY
D5	S_INT (Alert)
D6	POK (Output Power Ok)

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