POWER

Data Sheet

DS650/DS850

Distributed Power Bulk Front-End

Total Input Power:	650/850 Watts +3.3 Vdc Standby Output
Wide Range Output Voltage:	90 - 264 Vac 12, 24 and 48 V

SPECIAL FEATURES

- Active power factor correction
- EN61000-3-2 harmonic compliance
- Inrush control
- 1U X 2U form factor
- 15.4 W/ in^3
- 12 Vdc, 24 Vdc and 48 Vdc output
- Available in +3.3 V and +5.0 V standby output versions
- No minimum load required
- Hot plug operation
- N + 1 redundant
- Internal OR'ing fets
- Active current sharing (10 - 100% load)
- Built-in cooling fans (40 mm x 28 mm)
- I^2C communication interface bus
- EEPROM for FRU data
- Amber/Green bi-color LED status
- 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	90 - 264 Vac (wide range)
Frequency	47 - 63 Hz, single phase AC
Inrush current	55 A maximum inrush current
Efficiency	> 82% typical at full load, high line
Conducted EMI	FCC Subpart J EN55022 Class B
Radiated EMI	FCC Subpart J EN55022 Class B
Power factor	0.99 typical
Leakage current	1.40 mA @ 240 Vac
Hold up time	20 ms minimum
Output	
Main DC voltage	+12 V @ 52.5 A/70.0 A +24 V @ 26.3 A/35.0 A +48 V @ 13.1 A/17.5 A
Standby	+3.3 vsb @ 6 A (5 V @ 4 A available)
Adjustment range	Factory Set, no pot adjustments
Regulation	Main output; +5%/-5% +3.3 vsb; +5%/-5%
Overcurrent	110% - 150% of nominal Latches off if overcurrent lasts over 1 second, otherwise it is auto recovery. +3.3 vsb, 9 A max (hiccup mode)
Over oltage	110% - 120% of nominal +3.3 vsb; 3.76 - 4.30 Vdc
Undervoltage	75% - 90% of nominal
Turn-on delay	2 Second max, 5 - 50 mS, Monotonic Rise
Main output rise time	5 - 50 mS, Monotonic Rise

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Logic Control

PS_SEATED	TTL logic LOW if power supply is seated into system connector. This is a short pin. A logic HIGH if the PSU is removed.
PWR GOOD	Active TTL HilGH when output is within regulation limits.
AC OK	A LOW logic level if the input voltage is within allowable limits. A TTL logic HIGH level, and a 5mS early warningsig-nal before main output loss of regulation.
Temp OK	A TTL logic HIGH, when operating within allowable temperature range.
PS_INHIBIT/PS_KILL	This signal is connected to a short pin on the PSU When left open power supply operation will be inhibited. When the power supply is inserted into the system, this pin will be pull low by the system and turn the power supply on only after all other power supply pins have seated.

Environmental Specifications

Operating temperature:	0 to 50° C, unimpeded airflow
Storage temperature:	-40 °C to +85 °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 -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.	
MTBF (Demonstrated)	500K Hrs at full load, 40 °C

Ordering Information

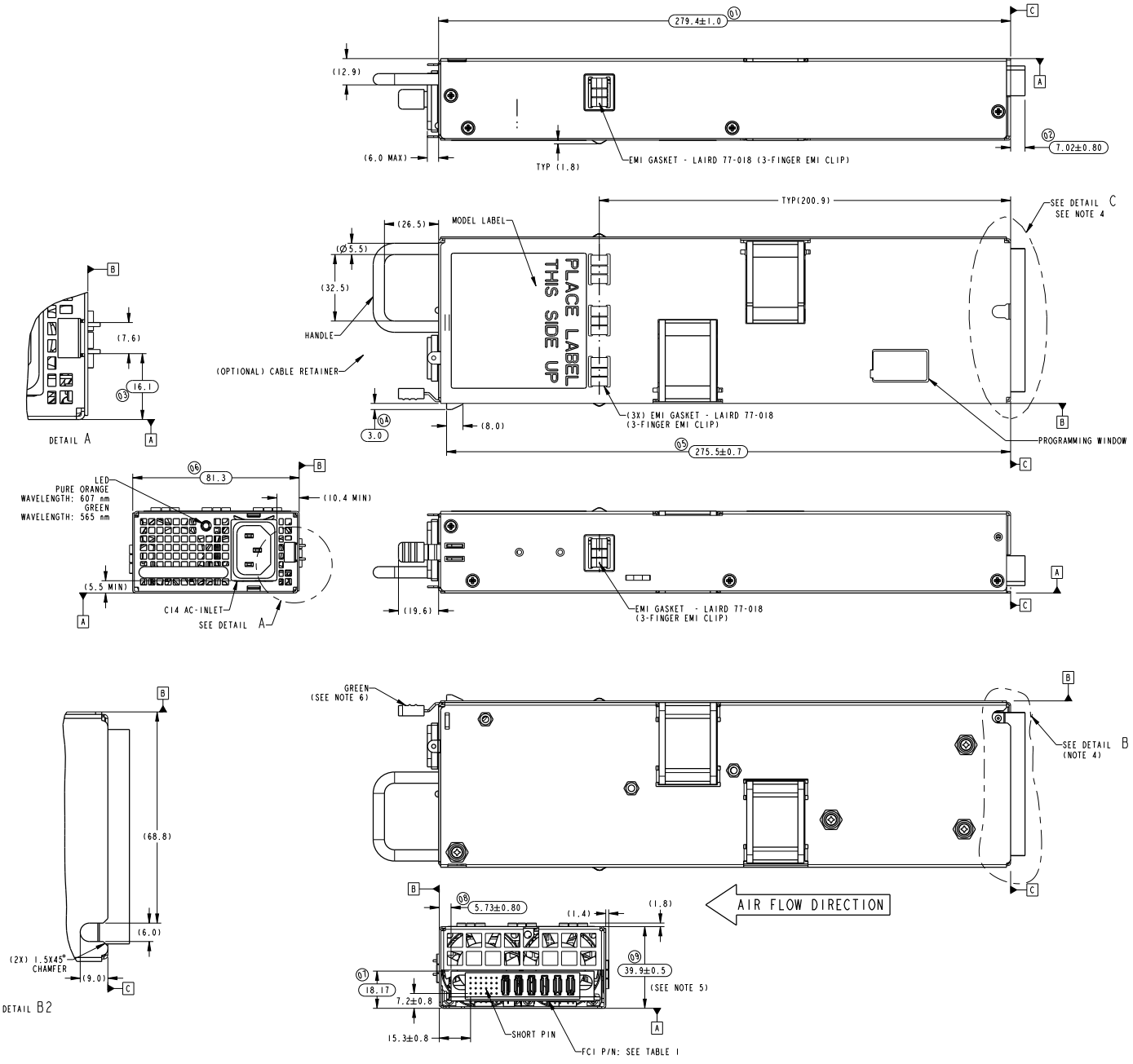
Output	Nominal Output Voltage Set Point	Set Point Tolerance**	Total Regulation	Minimum Current	Maximum Current	Output Ripple P/P
DS650-3	12.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	52.5 A 6.0 A	120 mV 50 mV
DS650-5	24.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	26.3 A 6.0 A	240 mV 50 mV
DS650-9	48.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	13.1 A 6.0 A	480 mV 50 mV
DS850-3	12.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	70.0 A 6.0 A	120 mV 50 mV
DS850-5	24.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	35.0 A 6.0 A	240 mV 50 mV
DS850-9	48.0 Vdc 3.3 vsb*	±0.2% ±1%	±5% ±5%	0 A 0 A	17.5 A 6.0 A	480 mV 50 mV

*For 5 vsb, please contact marketing department.

**Set point tolerance is measured at nominal voltage, 50% load and room temperature.

Mechanical Drawing

Power Supply Condition	LED Green/Amber
No AC power to all PSU	OFF
AC present/Standby outpus ON, Main output OFF	Blinking Green
Power supply DC outputs ON and OK	Solid Green
Main output failure (OCP, OVP, UVP)	Blinking Amber
Fan Fail, OTP, Standby output OCP/UVP	Solid Amber



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 Assignments

Pin	Signal Name
PB 1	MAIN O/P RETURN
PB 2	MAIN O/P RETURN
PB 3	MAIN O/P RETURN
PB 4	+ MAIN O/P
PB 5	+ MAIN O/P
PB 6	+ MAIN O/P
A1	PS_ON
A2	MAIN O/P V RMT SENSE RETURN
A3	TEMP_OK
A4	PS_SEATED (Power Supply Seated)
A5	+3V3 STAND-BY
A6	+3V3SB RETURN
B1	AC_OK (AC Input Present)
B2	MAIN O/P RMT SENSE
B3	MAIN O/P CURRENT SHARE
B4	PS_INHIBIT
B5	+3V3 STAND-BY
B6	+3V3SB RETURN

Pin Assignments

Pin	Signal Name
C1	SDA (I^2C Data Signal)
C2	SCL (I^2C Clock Signal)*
C3	POWER GOOD
C4	FAN FAIL (Fan Fail Signal)
C5	+3V3 STAND-BY
C6	+3V3SB RETURN
D1	A0 (I^2C Address BIT 0 Signal)
D2	A1 (I^2C Address BIT 1 Signal)
D3	S_INT (Alarm)
D4	+3V3 STAND-BY RMT SENSE
D5	+3V3 STAND-BY
D6	+3V3SB RETURN

*Supports I^2C standard mode (100 kHz) only

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