

AC-DC Converters

**POWER
SOLVE**

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DS1300-3 Series 1300 Watts 12V Distributed Power Bulk Front End



Features

- Active Power Factor Correction
- EN61000-3-2 Harmonic Compliance
- Active AC Inrush Control
- 2U X 3U Form Factor 7.5" Long
- 12.6 / in³
- +12VDC Output
- +3.3VDC Stand-By
- Hot Plug Operation
- N + 1 Redundant
- Internal OR'ing Fets Main & Stand-By
- Active Current Sharing
- Built-in Cooling Fans (60mm x 38mm)
- I²C Communication Interface Bus
- EERPOM for FRU Data
- Green LED Status, Power OK
- Amber LED Status, Power Failed
- Internal Fan Speed Control
- Fan Failure Output Signal
- INTEL, SSI Std Logic Timing
- INTEL, SSI Std. FRU Data Format
- AC Shutdown <85VAC or 170VAC

Electrical Specification

INPUT

Input Range	90 - 264VAC, 910W, 180 - 264VAC, 1300W
Frequency	47 - 63 Hz, single phase AC
Inrush Current	35A Maximum Inrush Current
Efficiency	>80% 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	0.75mA @ 240VAC
Hold Up Time	12mS Minimum

OUTPUT

Main DC Voltage	+12V @ 74A (90VAC I/P) or 106A (180 VAC I/P)
Stand-By	+3.3Vsb @ 7A
Adjustment Range	Factory Set, no pot adjustments
Regulation	+12VDC; +12V ±3%; +3.3Vsb ±3%
Over Current	+12VDC; 110-130% latches off if overcurrent lasts over 1.5 Sec, otherwise it is auto recovery +3.3Vsb, 7A - 105-130%

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Electrical Specification (.ctd)

Over Voltage	+12VDC; 13.7V \pm 7%, max. +3.3Vsb; 4.0V \pm 7%
Under Voltage	+12VDC; 11.0 - 11.4VDC
Turn-On Delay	<3 Seconds max
+12v Output Rise Time	5 - <200mS, Monotonic Rise

LOGIC CONTROL

PS_ON	An active low signal that turns on the 12VDC power rail. When this signal is high, or left open, the 12VDC output will turn off. The 3.3Vsb output remains on.
P OK	Is a power good signal to be pulled low by the power supply to indicate that all the outputs are within regulation limits of the power supply.
PS FAIL	In the event of a power supply failure (OVP at any output, UV at any output, OTP or other electrical failure), this signal shall go to a High state.
AC OK	High when AC is not OK, Low if AC is OK
PRESENT	Low if PSU is present, high if not present, pull high in system
FAN FAIL	Low if one or both fans have failed
PS_KILL	This pin shall quickly turn off the power supply and prevent arcing of the DC output contacts

ENVIRONMENTAL

Operating Temperature	-10°C to 50°C (50% power derating at 70°C)
Storage Temperature	-40° 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 Level, EN55024:1998,
RoHS, & Lead-free Compliant	RS5
Humidity	5 to 95% RH, non-condensing
Shock and Vibration Specification	Complies with Astec Std Specification, Q3205
MTBF (Demonstrated)	500K Hrs at full load, 40°C

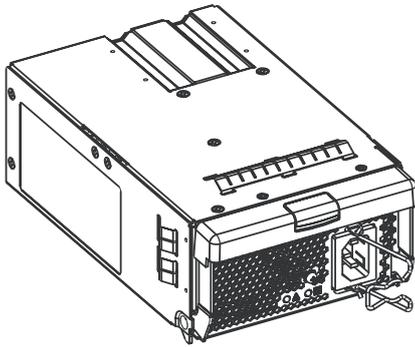
SAFETY APPROVALS

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

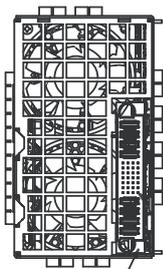
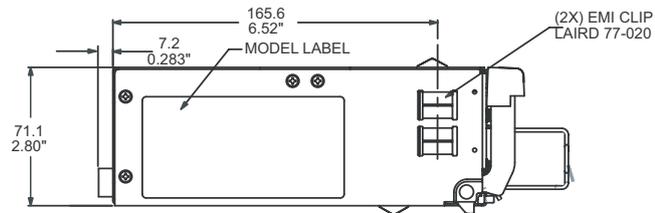
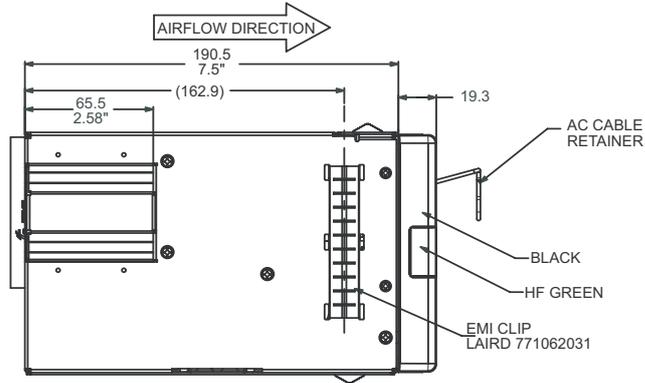
Table 1

OUTPUT	NOMINAL OUTPUT VOLTAGE SET POINT	SET POINT TOLERANCE	TOTAL REGULATION	MINIMUM CURRENT	MAXIMUM CURRENT	OUTPUT RIPPLE P/P
Main (>90VAC)	12.00VDC	\pm 0.2%	\pm 3%	0A	74A	120mV
Main (>180VAC)	12.00VDC	\pm 0.2%	\pm 3%	1.0A	106A	120mV
Std-By	3.3VDC	\pm 1%	\pm 3%	0.5A	7.0A	50mV

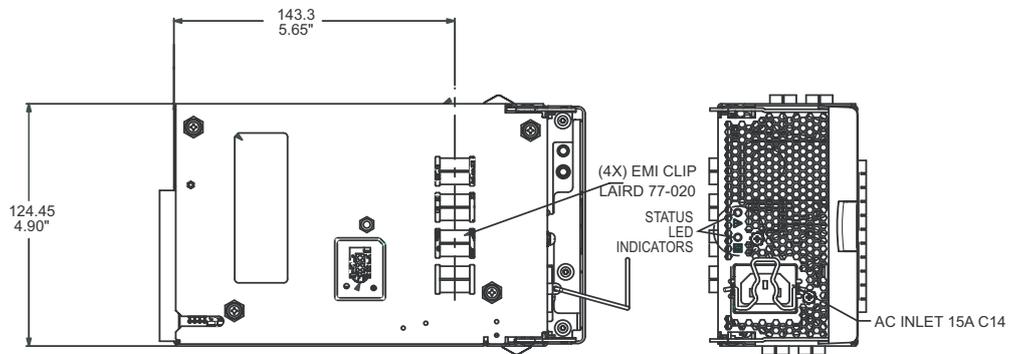
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3D VIEW



TYCO P/N 1-1450330-8 OR
FCI P/N 51939-055

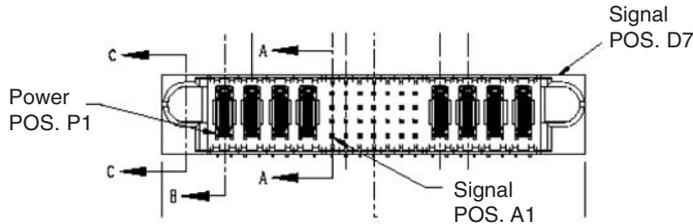


NOTE: Dimensions given in mm and inches.

Power Supply Condition	Power Supply LED's	
	PWR (green)	FAIL (amber)
No AC power to all PSU	Off	Off
No AC power to this PSU only (includes No output, over voltage, over temperature)	Off	On
AC present / Standby Output On	Blinking	Off
Power supply DC outputs ON and OK	On	Off
Power supply failure (over current)	Off	Blinking

DC Output Connector Pinout Assignment

P1 Output Connector



Male connector as viewed from the rear of the supply

P1 - Unit

FCI Power blade FCI p/n
51939-055

P1 Mate
Mating Connector (System side)
FCI Power blade
Part number 51915-023

AC Input Connector
EN60320 Type C14

Pin	Pin Connection	Signal Name
PB P1		+12V
PB P2		+12V RETURN (Pre-mate)
PB P3		+12V
PB P4		+12V RETURN (Pre-mate)
PB P5		+12V
PB P6		+12V RETURN (Pre-mate)
PB P7		+12V
PB P8		+12V RETURN (Pre-mate)
A1		+3V3 STAND-BY
A2		+3V3sb RETURN
A3		PS_PRESENT (Power Supply Seated) - (short pin)
A4		POK (Output Power Ok)
A5		PS FAIL (Failure Signal)
A6		SPARE
A7		SPARE
B1		+3V3 STAND-BY
B2		+3V3sb RETURN
B3		PS_ON (Power Enable Signal)
B4		PSKILL (Power Supply Fast Shutdown) - (short pin)
B5		SDA (I ² C Data Signal)
B6		A2 (I ² C Address BIT 2 Signal)
B7		FAN FAIL (Fan Fail Signal)
C1		+3V3 STAND-BY
C2		+3V3sb RETURN
C3		AC OK (AC Input Present)
C4		+12V RMT SENSE
C5		+12V RMT SENSE RETURN
C6		A1 (I ² C Address BIT 1 Signal)
C7		+3V3 STAND-BY RMT SENSE Return (-)
D1		+3V3 STAND-BY
D2		+3V3sb RETURN
D3		12IS (+12V Current Share)
D4		SPARE
D5		SCL (I ² C Clock Signal)
D6		A0 (I ² C Address BIT 0 Signal)
D7		+3V3 STAND-BY RMT SENSE (+)