Embedded Power for
Business-Critical Continuity

DS1500-3

1500 Watts 12V

Distributed Power System

Distributed Power Bulk Front-End
Total Output Power: 1500 Watts
+12vdc Main Output;
+3.3vdc Stand-by Output
Wide Range Input voltage: 90 - 264VAC
180 - 264vac 1500w
90 - 264vac 910W

Special Features

- Active Power Factor Correction
- EN61000-3-2 Harmonic Compliance
- Active AC Inrush Control
- 2U X 3U Form Factor 7.5" long
- 15W/ in^3
- +12vdc Output
- +3.3vdc Stand-By
- Hot Plug Operation
- N + 1 Redundant
- Internal OR'ing Main and Stand-by
- Active Current Sharing
- Internal Cooling Fans (60mm x 38mm)
- I^2C Communication Interface Bus
- EERPOM for FRU Data
- Green LED Status, Power OK
- Amber LED Status, Power Failed
- Internal Fan Speed Control
- Fan Fail Output Signal
- INTEL, SSI Std. Logic Timing
- INTEL, SSI Std. FRU Data Format
- AC shutdown <85VAC or 170VAC
- One Year Warranty

Safety

UL/cUL 60950 (UL Recognized)
1st edition (UL)60950-1-03 CSA
NEMKO + CB Report EN60950
EN60950
CE Mark
China CCC
CB Test Report

Electrical Specifications

Input	
Input range	90-264 VAC, 910w 180 - 264 vac, 1500w
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 A
Radiated EMI	FCC Subpart J EN55022 Class A
Power factor	0.99 typical
Leakage current	0.75mA @ 240VAC
Hold up time	12ms minimum
Output	
Main DC voltage	+12v @ 74A (90VAC) or 123A (180VAC)
Stand-By	+3.3vsb @ 7A
Adjustment range	Factory Set, no pot adjustments
Regulation	+12vdc; ±3%; +3.3vsb; ±3%
Over current	+12vdc; 110 - 130% latches off if overcurrent lasts over 1.5 seconds, otherwise it is auto recovery. +3.3vsb, 7A - 105% - 130%
Over voltage	+12vdc; 13.7v ±7% +3.3vsb; 4.0v ±7%
Under voltage	+12vdc; 11.0 - 11.4vdc
Turn-on delay	<3 Second max
+12vOutput Rise Time	5 - <200mS, Monotonic Rise
I Share 12V	15% from 50 - 100% load

ASTEC

EMERSON
Network Power

Logic Control

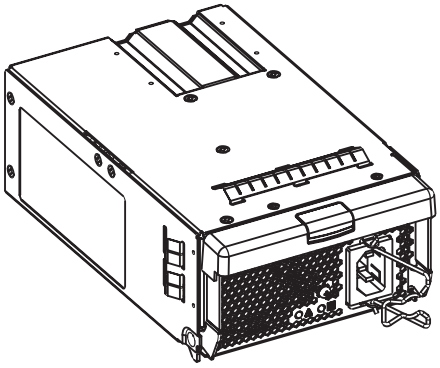
PS_ON	An active low signal that turns on the 12vdc power rail. When this signal High, or left open, the 12vdc output turn off. The 3.3Vsb output remains on.
POK	Is a power good signal to be pulled low by the power supply to indicate that all the outputs are within regulation limits of the power supply. (turn-on delay 100 - 500mS)
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 i f 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 arching of the DC output contacts.

Environmental Specifications

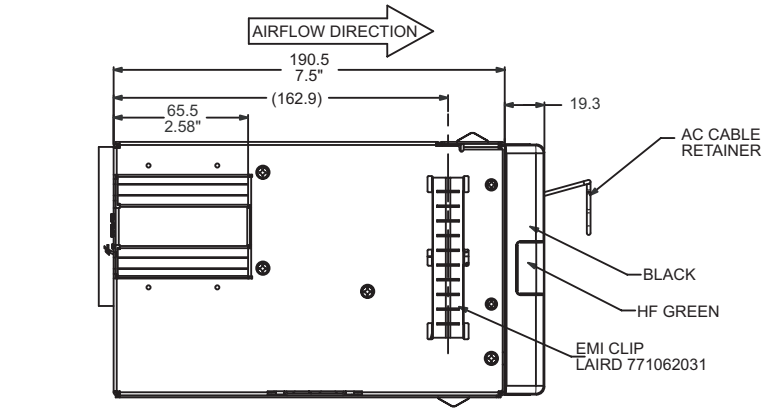
Operating temperature:	-10° to 50°C ; 50% power derating at 70°C
Storage temperature:	-40°C to +85°C
Altitude, operating 10,000ft.	
Electromagnetic susceptibility / Input transients:	EN61000-3-2, -3-3 EN61000-4-2, 4.3, 4-4, -4-5, 4-11 Level EN55024:1998 RoHS, RS5
Humidity:	5 to 95% RH, non-condensing
Shock and vibration specificatons complies with Astec Std. Specifications, Q3205	
MTBF (Demonstrated)	500K Hrs at full load, 50°C
Anti-smoke Emission	Due to internal overload or internal failures
Fan life:	70,000 hrs @ 40°C

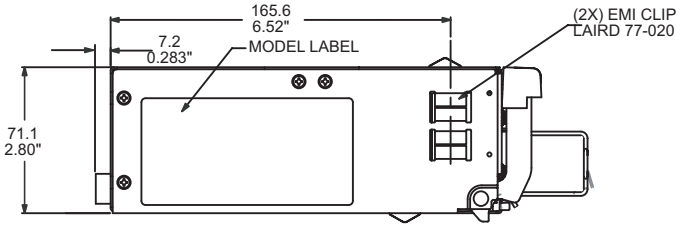
Ordering Information

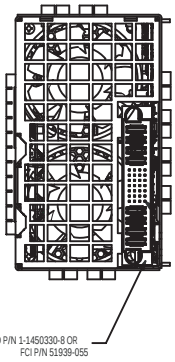
Output	Nominal Output Voltage Set Point	Set Point Tolerance	Total Regulation	Minimum Current	Maximum Current	Output Ripple P/P
Main (>90VAC)	12.00vdc	±0.2%	±3%	0A	74A	120mV
Main (180VAC)	12.00vdc	±0.2%	±3%	1.0A	123A	120mV
Std-By	3.3vdc	±1%	±3%	0.5A	7.0A	50mV

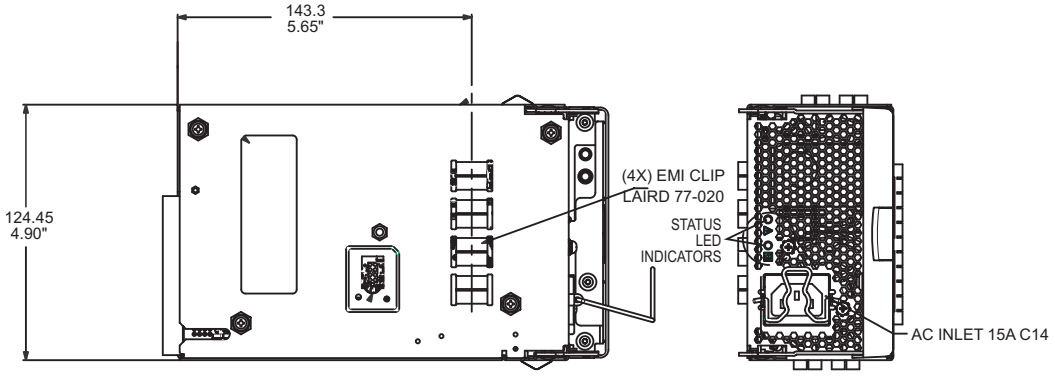


3D VIEW





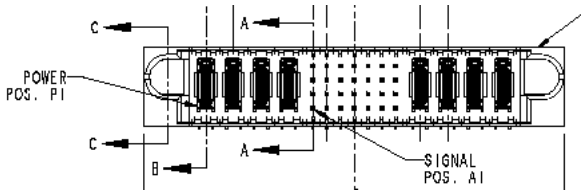




NOTE: Dimensions given in mm and inches.

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



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	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	PSON (Power Enable Signal)	
B4	PSKILL (Power Supply Fast Shutdown) - (short pin)	
B5	SDA (I2C Data Signal	
B6	A2 (I2C 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 (I2C 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 (I2C Clock Signal)	
D6	A0 (I2C Address BIT 0 Signal)	
D7	+3V3 STAND-BY RMT SENSE (+)	

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