Embedded Power for
Business-Critical Continuity

DS460S

460 Watts

Distributed Power System

Distributed Power Bulk Front-End
Total Output Power: 460 Watts
+12 Vdc Stand-by Output
Wide Range Input Voltage: 90 - 264 Vac

Special Features

- Active power factor correction
- EN61000-3-2 harmonic compliance
- Active AC inrush control
- 1U X 2U form factor
- +12 Vdc output
- +12 Vdc stand-by
- Hot plug operation
- N + 1 redundant
- Active current sharing
- Built-in cooling fan
- I²C communication interface bus
- PMBus compliant
- EEPROM for FRU data
- One year warranty

Safety

- UL/cUL 60950 (UL Recognized)
- NEMKO 60950
- Cb Certificate and report
- CE Mark (LVD)

Electrical Specifications

Input	
Input range:	90 - 264
Frequency:	47 - 63 Hz, single phase AC
Inrush current:	30 Apk maximum inrush current
Efficiency:	92% typical at high line 50% load
Conducted EMI:	FCC Subpart J EN55022 Class B
Radiated EMI:	FCC Subpart J EN55022 Class B
Power factor:	0.99 typical
Leakage current:	1.0 mA @ 240 Vac
Hold up time:	10 ms minimum
Output	
Main DC voltage:	+12.3 V @ 36.0 A
Stand-By:	+12 V @ 2.3 A
Adjustment range:	Factory set
Regulation:	11.85 - 12.45 Vdc 11.40 - 12.6 Vdc
Overcurrent:	+12 Vdc; latches off if overcurrent lasts over 1 second, Trip point 120% - 150% of rated current.
Overvoltage:	+12 Vdc; 13.6 - 15.0 Vdc +12 Vsb; 13.6 - 15.0 Vdc
Turn-on delay:	1 - 1.5 seconds
Main output rise time:	10 - 30 mS, monotonic rise

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Logic Control	
PS_PRESENT (S4):	Used to sense the number of power supplies in the system (operational or not) and provide hot plug insertion and removal functionality by controlling main outputs during hot plug insertion and removal by employing following circuitry. When the unit is removed from the system the fast shut down signal quickly turns OFF main outputs and discharges output capacitors. This signal is the shortest gold finger pin on the signal connector to allow for last make, first break configuration.
PSOK (S6):	Combined indicator of AC input and main 12 V DC output. This is a three level signal to indicate different stages as follows.
	AC not OK and DC not OK – Signal status shall be LOW (< 0.6 V) AC OK and DC not OK – Signal status shall be LOW (< 0.6 V) AC OK and DC OK – Signal status shall be HIGH (> 3.0 V) AC not OK and DC OK – Signal status shall be Middle Level (Between 2 V and 2.5 V) DC OK threshold is defined as when the 12 V output is greater than 11.5 V. DC not OK threshold is defined as when the 12 V output is less than 11.4 V & greater than 11.3 V.
I-Mon (S7):	Provides both the load sharing function (as a feedback for output regulation droop function) and 12 V output current information.
PS INTERRUPT (S4):	The signal behavior in response to certain operating condition changes in the power supply as defined in the Firmware Specification section. This signal shall be pulled up to maximum 5 V logic level external to the PS.
PS ON (S8):	Required to remotely turn on/off the power supply. PSON# is an active low signal that turns on the main 12 V DC output. When this signal is not pulled low by the system, or left open, the 12 V output is turned off. This signal is pulled to a standby voltage by a pull-up resistor internal to the power supply. Refer to On/Off Timing for timing diagram in TRN. When in off or standby condition, the main 12 V DC output will be less than 50 mV with respect to output return.

Environmental Specifications

Operating temperature:	-10° to 50 °C
Storage temperature:	-40 °C to +85 °C
Altitude, operating:	10,000 ft
Electromagnetic susceptibility / Input transients:	-EN61000-3-2 -EN61000-4-2, 4.3, 4-4, -4-5, 4-6, 4-11
RoHS & lead-free compliant:	No tantalum caps.
Humidity:	5 to 90% RH, non-condensing
Shock and vibration specificatons:	Complies with Astec Std. Specifications, Q3205
MTBF (Demonstrated):	500K Hrs at full load, 50 °C

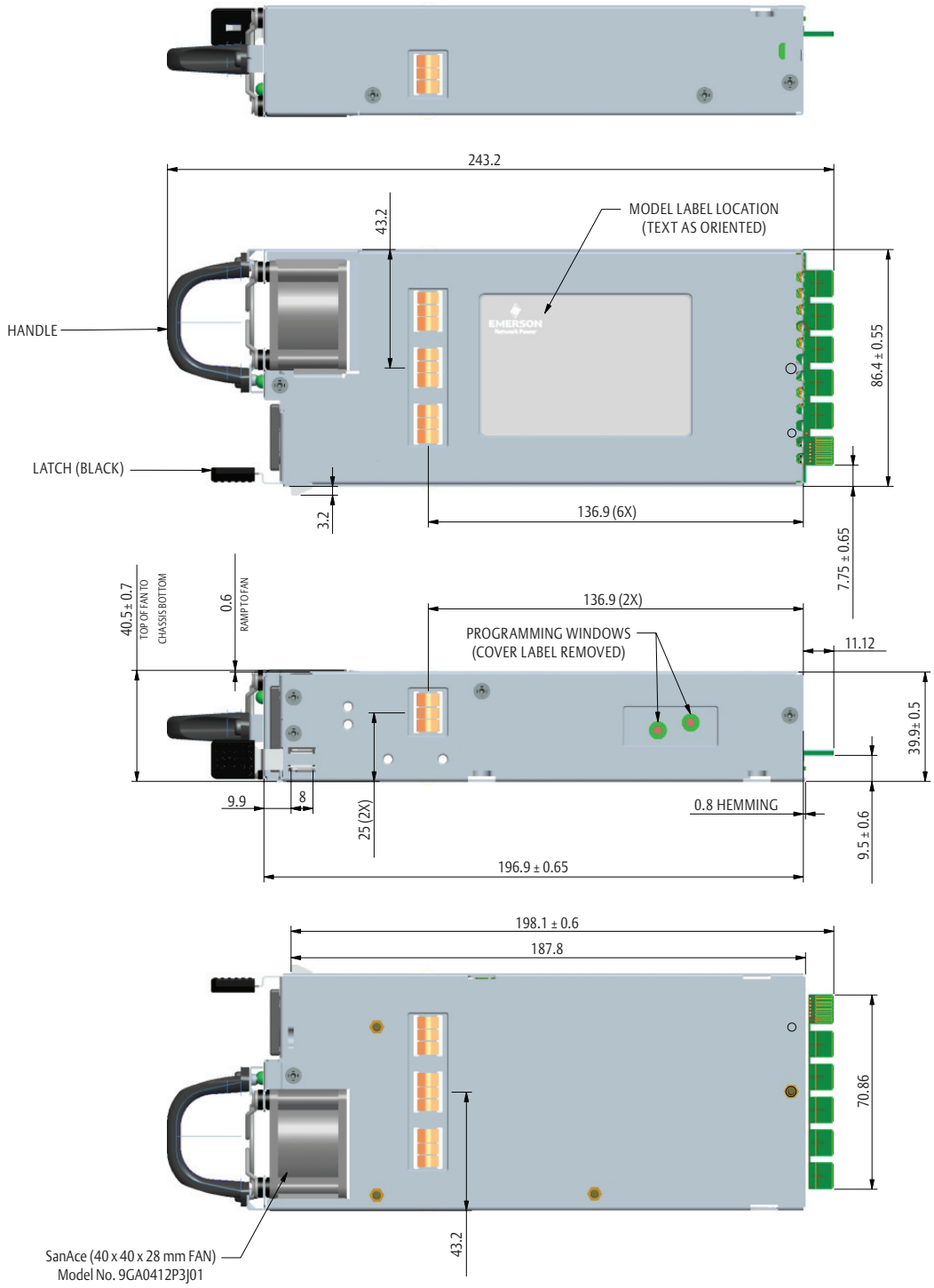
Ordering Information

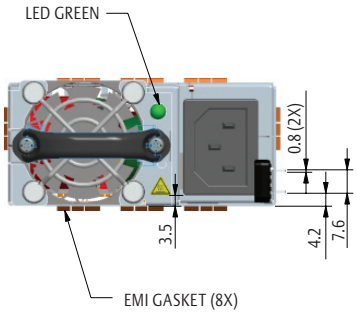
Model Number	Nominal Output Voltage Set Point	Set Point Tolerance	Total Regulation	Minimum Current	Maximum Current	Output Ripple P/P	Over Current	Stand-by	Air Flow
DS460S-3-002	12.3 Vdc	± 0.2%	± 5%	1 A	36.0 A	120 mV	45.9 A - 57.5 A*	12.0 V @ 2.3 A	STD
DS460S-3-003	12.3 Vdc	± 0.2%	± 5%	1 A	36.0 A	120 mV	45.9 A - 57.5 A*	12.0 V @ 2.3 A	REV

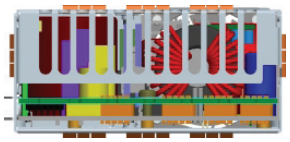
*Overcurrent latches off if overcurrent lasts over 1 seconds, otherwise it is auto recovery.

Mechanical Drawing

Weight: 1.88 lbs



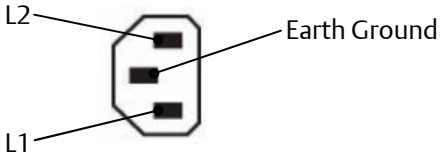




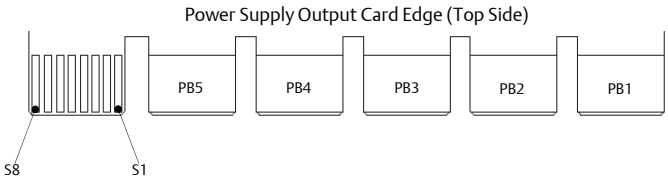
Rev. 11.07.11_180
DS460

Connector Definitions

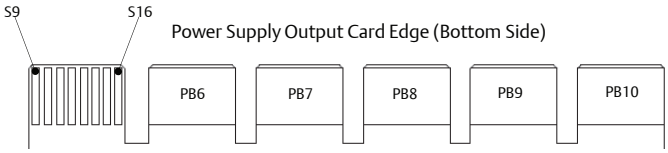
AC Input Connector	
Pin 1	Line
Pin 2	Neutral
Pin 3	Eath Ground



Output Connector - Power Blades	
PB1	V_O
PB2	V_O
PB3	V_O
PB4	RTN
PB5	RTN
PB6	RTN
PB7	RTN
PB8	RTN
PB9	V_O
PB10	V_O



Output Connector - Signal Blades	
S1	VSB
S2	VSB
S3	Reserved
S4	PS INTERRUPT
S5	PS PRESENT
S6	PSOK
S7	I-MON
S8	PSON#
S9	SCL*
S10	SDA
S11	GND
S12	ADD0
S13	ADD1
S14	ADD2
S15	RTN
S16	RTN



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

Power/Signal Mating Connectors and Pin Types

Reference	On Power Supply	Mating Connector or Equivalent
AC Input Connector	IEC320-C13	IEC320-C14
Output Connector	PCB card edge (0.062”)	Molex 459840007 (top mount)
		Molex 459841122 (bottom mount)

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