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DS2301

AC-DC
Power Supply

(Document Rev A05 09/17/15)

Three Phase Delta @ 60Hz 115/208Vac
Multiple Output (7), 1442W Max Total Output

Market: Mil-COTS Naval Ship

Application: Military Ship Radar System VME Rack display panel

Features

- Enclosed Ruggedized Case.
- Attachable fan tray for cooling.
- Designed to meet portions of MIL-STD-167-1* Vibration.
- Designed to meet portions of Mil-S-901D* Shock standard.
- Designed to meet portions of Mil-STD-461E * EMI standard.
- Designed to meet portions of MIL-STD-810* salt/fog, attitude, and humidity standard.

***** Designed to meet portions of these particular standards. Contact AEGIS Power Systems for specific details.

Table 1: Maximum Ratings

Parameter	Rating	Unit	Notes
Temperature	0 to +60 -40 to +70	°C	Operating Non-Operating
Output Power	1442	W	
Input power	2134	W	(With fan tray attached.)
+28Vdc output 1	644	W	23A
+15Vdc output 2	90	W	6A
+12Vdc output 3	72	W	6A
+5Vdc output 4	400	W	80A
+3.3Vdc output 5	116.6	W	32.5A
-12Vdc output 6	60	W	5A
-15Vdc output 7	60	W	4A

Product Highlights

Designed for integration into naval ship radar equipment, the DS2301 is a ruggedized power supply that consumes 2134 Watts of 3 phase delta AC power and converts it into 1442 Watts of combined DC output power. It features 7 Outputs with remote sense capability and a DC OK power indicator. This model includes a removable / replaceable fan tray. Spare fan tray can be purchased separately as part number DS2301FT.

AEGIS Power Systems, Inc. specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for Mil-COTS, defense, industrial, telecomm, aircraft, shipboard, rack mount, and electric powered vehicle applications. Contact Aegis for specific details on what portions of a particular military standard is offered for this power converter power supply.

SPECIFICATIONS (Typical at 25°C, nominal line and 100% load, unless otherwise specified.)

Input voltage:	115/208Vac (±7%), 3 phase delta @ 60Hz (±3%).
Input current:	10A Max @ 115Vac.
Input power:	2134W maximum. Includes fan tray power.
Power factor:	0.99 Typical.
Output power:	1442W maximum combined total output.
Holdup time:	Contact Aegis.
Output voltages:	+28Vdc, ±12Vdc, ±15Vdc, +5Vdc, & +3.3Vdc. See table 2.
Efficiency:	70% Minimum 73% typical.
Output ripple:	28Vdc out 100mVpk-pk; all other outputs 50mV pk-pk (20MHz BW). Table 2.
Current Limit:	Short circuit protected with automatic recovery.
Voltage set point:	± 0.5%.
Line/Load regulation:	± 0.2%.
Temperature regulation:	± 0.01% / °C.
Temperature:	0°C to +60°C operating; -40°C to +70°C non-operating.
Cooling:	Forced air fan cooling through cooling fins.
Package:	Enclosed metallic case. Removable, replaceable fan tray.
Dimensions:	4” H x 16” W x 13.5” L.
Weight:	34 lbs maximum.
Connector:	Input (PT02E-145P); Output (PT02E-20-16S). See Table 3.
Status indicator:	DC OK: Relay contact: Closed=OK; Open=Fail.
Remote Sense:	2V compensation (output 1); 0.5V compensation (outputs 4 & 5).
Vibration:	Designed to meet portions of MIL-STD-167-1
Shock:	Designed to meet Mil-S-901D; 30Gs, 80ms half-sine, three axis.
Humidity:	0 – 95% non-condensing.
EMI:	Designed to meet portions of MIL-STD-461E EMI standard.

Specifications subject to change without notice.

Table 2: DS2301 Voltage Outputs

Output	Vdc out	Watts out	Amps out	Max Limit Mode	Ripple (20MHz BW)
V1	+28Vdc	644W	23A	28A	100mVp-p
V2	+15Vdc	90W	6A	9	50mVp-p
V3	+12Vdc	72W	6A	11	50mVp-p
V4	+5Vdc	400W	80A	156	50mVp-p
V5	+3.3Vdc	116W	35.2A	54	50mVp-p
V6	-12Vdc	60W	5.0	11	50mVp-p
V7	-15Vdc	60W	4.0	9	50mVp-p

Table 3: DS2301 Connector Pin Outs

Output Connector			**Input Connector**	
PT02E-14-5P			**PT02E-20-16S**	
CN1 Pins	**Signal Name**		**CN2 Pins**	**Signal Name**
A	Fault N.O.		A	Phase **A** Input
B	Fault Common		B	Phase **B** Input
C	+28VSens Pos		C	Phase **C** Input
D	+28VSens Neg		D	Input Ground
E	+5VSens Pos		E	N/A
F	+5VSens Neg			
G	+3.3VSens Pos			
H	+3.3VSens Neg			
J	+15Vdc			
K	+15Vdc RTN			
L	+12Vdc			
M	+12Vdc RTN			
N	-15Vdc			
P	-15Vdc RTN			
R	-12Vdc			
S	-12Vdc RTN			

NOTES: UNLESS OTHERWISE SPECIFIED

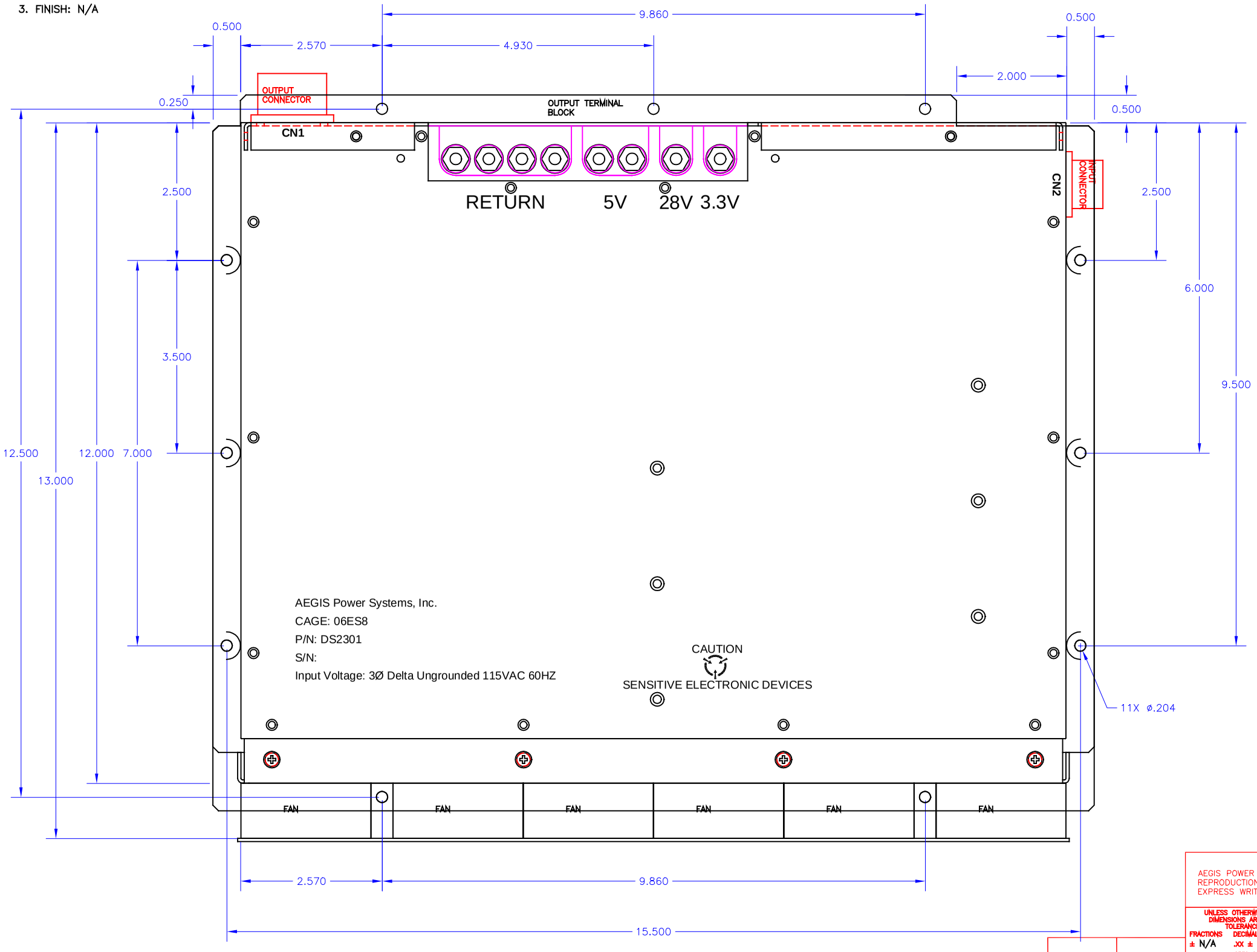
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M–1994
2. MATERIAL: N/A
3. FINISH: N/A

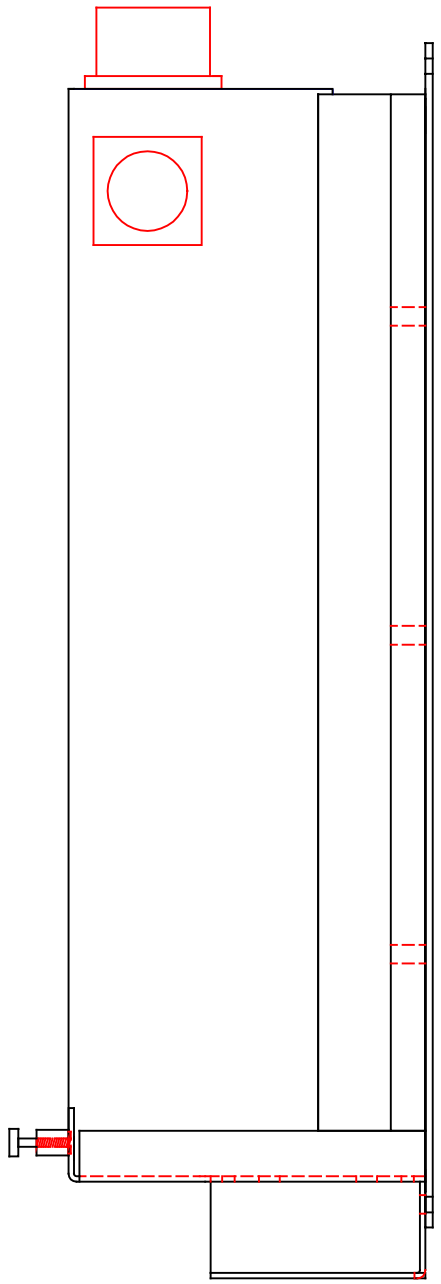
CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

DWG NO.	SH	REV

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	09/08/03	M.Mason
	A02	MOUNTING BRACKET MOD.	11/03/03	M.Mason
	A03	FAN TRAY MOD.	1/25/04	M.Mason





UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ± N/A DECIMALS XX ± .02 XXX ± .005 DEGREES ± .5

MATERIAL: SEE NOTE 2

FINISH: SEE NOTE 3

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN M. MASON	09/08/03
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

NEXT ASSY | USED ON

APPLICATION

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: DS2301 POWER UNIT WITH FANS

AEGIS P/N: DS2301

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	DS2301–M22	A03

SCALE 1/1 SHEET 1 OF 1