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(Document Rev A09, 4/19/21)

BW2901

Overview

AC-DC Power Supply
Single Phase 60Hz or 400Hz, 115 Vac Input
300W, 325W, or 600W Isolated Power Supply
With Current Sharing Capability

Market(s)

Military Cots

Typical Application(s)

Aircraft Electronic Equipment

Product Highlights

This single-phase power supply takes 115VAC input and converts it into an isolated and regulated DC output. Three output options available: Model BW2901-001 outputs 28Vdc at 325W, Model BW2901-002 outputs 24Vdc 300W, Model BW2901-003 outputs 24Vdc 600W. Model BW2901-004 outputs 28Vdc 300W Designed to meet applicable portions of MIL-STD-1399 sections 300 A/B.

Features

- MIL-STD-1399 Section 300 A/B*
  (-001, -002, -003, -004 option)
- MIL-STD-704F*
  (-005 option)
- MIL-STD-810F*
  (-005 option)
- Single Output
  (Choose one of 5 standard options)

**Designed to meet applicable portions of this standard. Contact Aegis Power Systems, Inc. for specific details.

Table 1: Maximum Continuous Operating Ratings

Parameter	Rating	Unit	Notes
Vin max range	107 to 123	Vac	Type 1, 1-phase
Frequency max range	58 to 62	Hz	Type 1, 1-phase
Temperature range	–40 to +71	°C	Operating
Input power	360 - 722	W	(Depending on output option)
28Vdc output	325	W	BW2901-001 (60Hz)
24Vdc output	300	W	BW2901-002 (60Hz)
24Vdc output	600	W	BW2901-003 (60Hz)
28Vdc output	300	W	BW2901-004 (60Hz)
28Vdc output	300	W	BW2901-005 (400Hz)

About Us

Aegis Power Systems, Inc. specializes in the design, development, and manufacture of AC-DC and DC-DC power supplies for high-performance, rugged, critical, and specialty applications. Markets served include defense, industrial, communications, aircraft, shipboard, rack mount, embedded computing, and electric vehicle applications.

Contact us to find out if this item can be configured or redesigned to meet your specific technology need.

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

Parameter	Notes
DC input Voltage	MIL-STD-1399 Section 300A/B Type I, 115Vac 60Hz (-001, -002, -003, -004 option) MIL-STD-704 115Vac 400Hz (-005 option)
Input Current	3.13A – 6.27A @ 115Vac typical
Input Power	360W – 722W @ 115 typical
Power Factor	0.99 typical 47Hz - 63Hz (-001, -002, -003, -004 option) 0.97 typical 393Hz – 407Hz (-005 option)
Output Power	See Table 2.
Current Share	Two or more units can be configured to current share with as much as 2400W capability.
Holdup Time	2ms
Output Voltages	See Table 2.
Efficiency	83% Typical
Current Limit	Short circuit protected with automatic recovery.
Start-Up Time	500ms Max.
Voltage Set Point	± 2.5%.
Line Regulation	± 2.5%.
Load Regulation	± 2.5%.
Temperature	–40°C to +71°C Operating. -40°C to +85°C Non-Operating.
Dimensions	9.5” x 9.5” x 2.32” (see mechanical drawing).
Connector	Circular (see mechanical drawing)
Vibration	Designed to meet MIL-STD-167 (-001, -002, -003, -004 option) Designed to meet MIL-STD-810F, Method 514.5, Procedure I. (-005 option)
Shock	Designed to meet MIL-STD-901D (-001, -002, -003, -004 option) Designed to meet MIL-STD-810F, Method 516.5, Procedure I. (-005 option)
Noise	Designed to meet MIL-STD-740 (-001, -002, -003, -004 option)
Humidity	0 – 95% non-condensing.
EMI	Designed to meet MIL-STD-461C, CE01. CE03, CS01 (-001, -002, -003, -004 option) Designed to meet MIL-STD-461G, CE101, CE102, CS101 (-005 option)
Isolation	1000Vdc In-Out, 1500Vdc In-Chassis, 500Vdc Out-Chassis
Altitude	50kFt Operational (-005 option)

Specifications subject to change without notice.

Table 2: Voltage Output (Nominal)

	BW2901-001	BW2901-002	BW2901-003	BW2901-004	BW2901-005
Voltage	+28Vdc	+24Vdc	+24Vdc	+28Vdc	+28Vdc
Current	11.65A	12.5A	25A	10.7A	10.7A
Power	325W	300W	600W	300W	300W
Ripple	300mVp-p*	300mVp-p*	300mVp-p*	300mVp-p*	300mVp-p*
Operating Frequency	47Hz - 63Hz	47Hz - 63Hz	47Hz - 63Hz	47Hz - 63Hz	393Hz – 407Hz

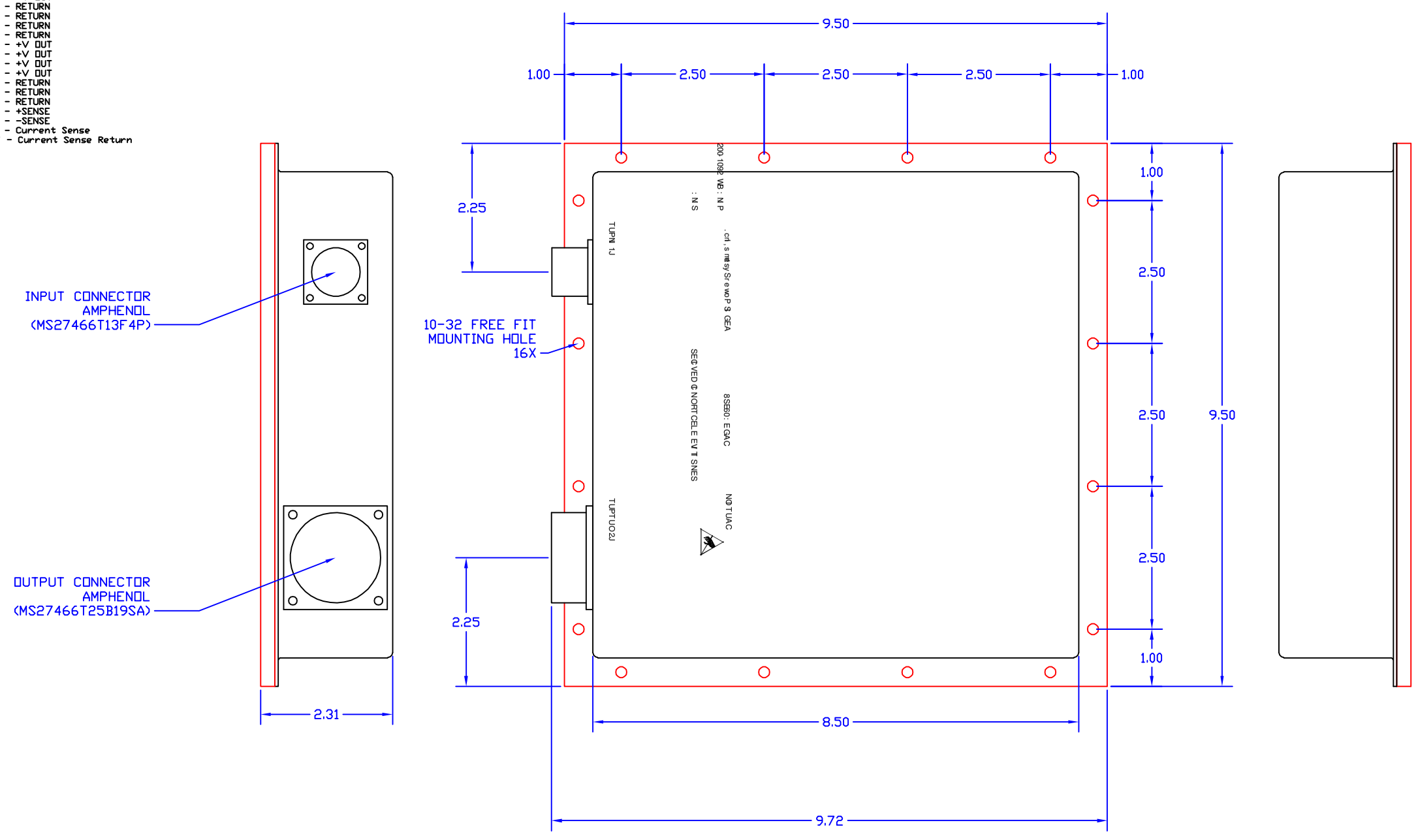
* 20 MHz BW limited

NOTES: UNLESS OTHERWISE SPECIFIED

1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. MATERIAL: ALUMINUM ALLOY
3. FINISH: CHEMICAL FILM PER MIL-DTL-5541F, CLASS 3, TYPE II, COLOR CLEAR
4. INPUT CONNECTOR
   - A-LINE
   - B-NEUTRAL
   - C-CHASSIS GND
   - D-OPEN
5. OUTPUT CONNECTOR
   - A - +V OUT
   - B - +V OUT
   - C - +V OUT
   - D - +V OUT
   - E - RETURN
   - F - RETURN
   - G - RETURN
   - H - RETURN
   - J - +V OUT
   - K - +V OUT
   - L - +V OUT
   - M - +V OUT
   - N - RETURN
   - P - RETURN
   - R - RETURN
   - S - +SENSE
   - T - -SENSE
   - U - Current Sense
   - V - Current Sense Return

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	xxxxx	xxx
	A02	OUTPUT CONNECTOR PIN OUT	11/29/11	MVM
	A03	MATERIAL AND FINISH	1/4/12	MVM
	A04	CONN. FROM NUMBER TO LETTER	2/1/12	MVM

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



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

NEXT ASSY	USED ON
APPLICATION	

CONTRACT NO.

APPROVALS	DATE
DRAWN MVM	10/28/09
CHECKED	
PROJ. ENG.	
MFG.	
QUALITY	

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE: SINLE PHASE PFC 650W 24V MECHANICAL LAYOUT
AEGIS P/N: BW2901-002

SIZE	FSCM NO.	DWG NO.	REV
D	06ES8	BW2901-002-M00	A04

SCALE 1/1 SHEET 1 OF 1