PO Box 429 | 805 Greenlawn Rd. | Murphy, NC 28906 USA | +1 (828) 837-4029 | www.aegispower.com

(Document Rev A13, 10/28/26

BG2802

Overview

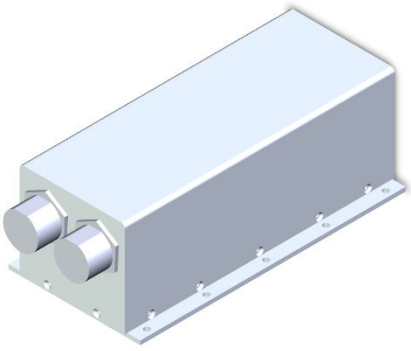
DC-DC Power Converter
28Vdc Input
Single Output. See Table 2.
Multiple Enclosure Options. See Table 3.

Market(s)

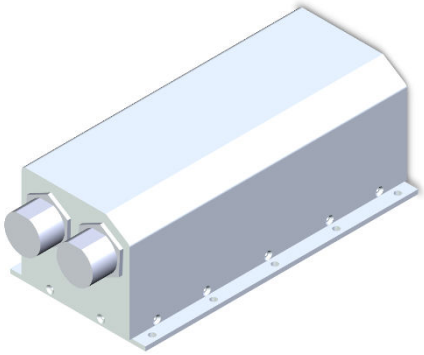
Military Cots

Typical Application(s)

Aircraft Electronic Equipment



BG2802-XX-01 Enclosure



BG2802-XX-00 Enclosure

Product Highlights

The BG2802 is an enclosed dc-dc power converter with a single output. This military Mil-COTS solution is designed to meet portions of MIL-STD-704A/E/F input requirements, portions of MIL-STD-810F vibration and shock requirements and portions of the MIL-STD-461E EMI requirements. Contact Aegis Power Systems for details concerning military specifications. When compared to power supplies using conventional technology, this enclosed case conduction cooled dc-dc power converter provides users with higher efficiency (80%), lower weight (3 lbs.).

Features

- 28Vdc per MIL-STD-704A/E/F *
- MIL-STD-1275A/B/D*
- Single Output, 238W Max
- MIL-STD-810F Environmental *
- MIL-STD-461E EMI *
- Enclosed Case Power Converter

Table 1: Maximum Continuous Operating Ratings

Parameter	Rating	Unit	Notes
Vin max range	20 to 36	Vdc	
Temperature	–55 to +85**	°C	91°C for 30 minutes
Output Power	237.5	W	See Table 2
Input power	297	W	

*Designed to meet applicable portions of this standard. Contact Aegis Power Systems, Inc. for specific details.
**With exception of -03 model. See details next page.

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	Input range 20Vdc to 36Vdc, 28Vdc nominal. Designed to meet Mil-Std-704A transients. Designed to meet Mil-Std-704A/E/F (Normal and Abnormal Range). Will operate down to 18Vdc with shut down occurring with an input less than 18Vdc, (Automatic restart).
DC input Line Current	See Table 2.
Input Power	See Table 2.
Output Power	See Table 2.
Output Voltages	See Table 2.
Output Ripple	See table 2.
Current Limit	Short circuit protected with automatic recovery.
Efficiency	80% Nominal
Start-Up Time	500ms Max.
Voltage Set Point	+/-0.5%.
Line Regulation	+/- 0.15%.
Load Regulation	+/- 1.5%.
Temperature Regulation	+/-0.01%/°C
Temperature	-55°C to +85°C Operating baseplate. 30 minutes at 91°C Operating baseplate. -55°C to +100°C Non-operating. BG2820-03 (-40 to +85°C Operating.)
Cooling	Conduction cooling through baseplate.
Package	Enclosed covered attached to baseplate.
Dimensions	3” x 4” x 8.2” (see mechanical drawing).
Weight	3.0 lb. Max
Connector	1ea Input: D38999/24WD5PN, Output: D38999/24WC4SN
Fusing	Not fused. Device is reverse voltage protected with customer provided fuse.
Vibration	Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)
Shock	Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)
Explosive Atmosphere	Mil-Std-810F Aircraft. (Contact Aegis on specific specs designed to meet.)
Altitude	50,000 ft Operating.
Humidity	0 – 95% non-condensing.
EMI	Designed to meet MIL-STD-461E (CE102 and CS101).

Specifications subject to change without notice.

Table 2: Voltage Output (Nominal)

	BG2802	BG2802-01	BG2802-02	BG2802-03	BG2802-04
Output Voltage	+14.5Vdc	+5Vdc	+19Vdc	+14.5Vdc	+12.0Vdc
Output Current	15A*	15A*	12.5A	15A*	15A*
Input Current @28Vdc Input	9.75A	3.35A	10.64A	9.75A	8.04A
Input Power @28Vdc Input	273W	94W	298W	273W	225W
Output Power	218W (290W-45uS Surge Capacity)	75W	238W	218W	180W
Ripple	160mVp-p**	100mVp-p**	190mVp-p**	160mVp-p**	130mVp-p**

*Current is limited to 13Amps per pin on D38999/24WC4SN
** 100kHz Bandwidth Limited
(Ripple to be measured with 24" twisted pair connected to output & 100µF electrolytic cap paralleled with 0.1µF across the probe tip)

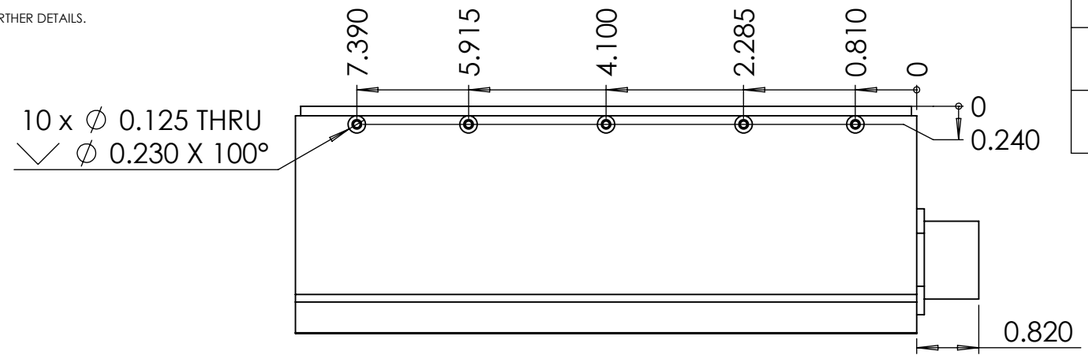
Table 3: Enclosure Options

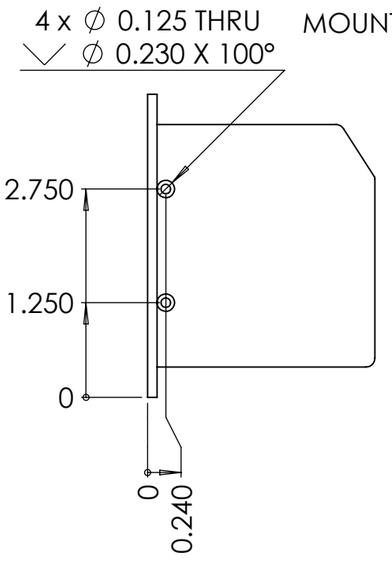
BG2802-XX-XX	Enclosure
XX-00	BG2802-M00 (see page 4)
XX-01	BG2802-M03 (see page 5)

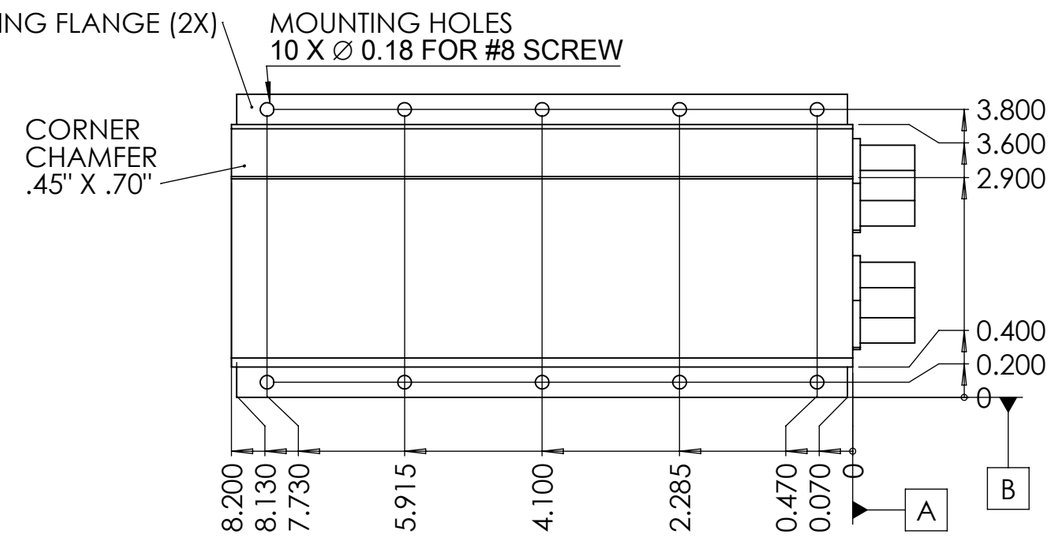
NOTES: UNLESS OTHERWISE SPECIFIED

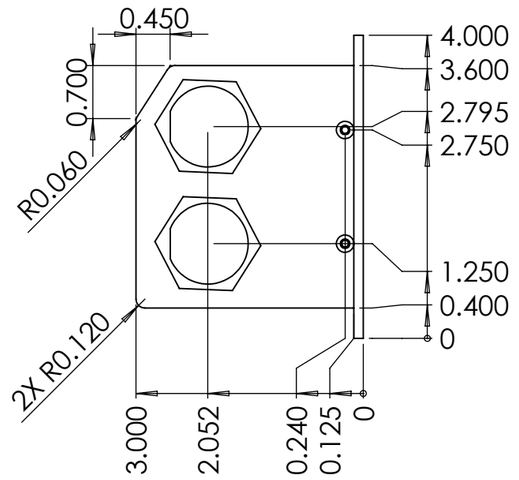
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
2. MATERIAL: ALUMINUM
3. FINISH: COVER FINISH - TOPCOAT FED-STD-595C COLOR NUMBER 36231 (LUSTERLESS GRAY) per PS13630.
BASEPLATE - FINISH: CLEAR CHEMICAL FILM (ROHS Compliant) per MIL-C-5541, CLASS 3, IAW MIL-DLT-81706, TYPE II, CLASS 3.
4. SURFACE FLATNESS: 0.020" MAX
5. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
6. REFER TO CAD MODEL "BG2802-M00 REV B02" FOR FURTHER DETAILS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	XX/XX/XX	JFS
	B01	CHANGE CONN, INCREASE HEIGHT	04/10/08	MRA
	B02	CDR RELEASE-ADD CONN PINOUT	4/15/08	MRA









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

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± N/A
DEGREES: ± .5
TWO PLACE DECIMAL ± .02
THREE PLACE DECIMAL ± .005

MATERIAL SEE NOTE 2

FINISH SEE NOTE 3

DO NOT SCALE DRAWING

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CONTRACT NO.

APPROVALS	NAME	DATE
DRAWN	MRA	04-15-08
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE:
BG2802 MECHANICAL LAYOUT
AEGIS P/N: BG2802

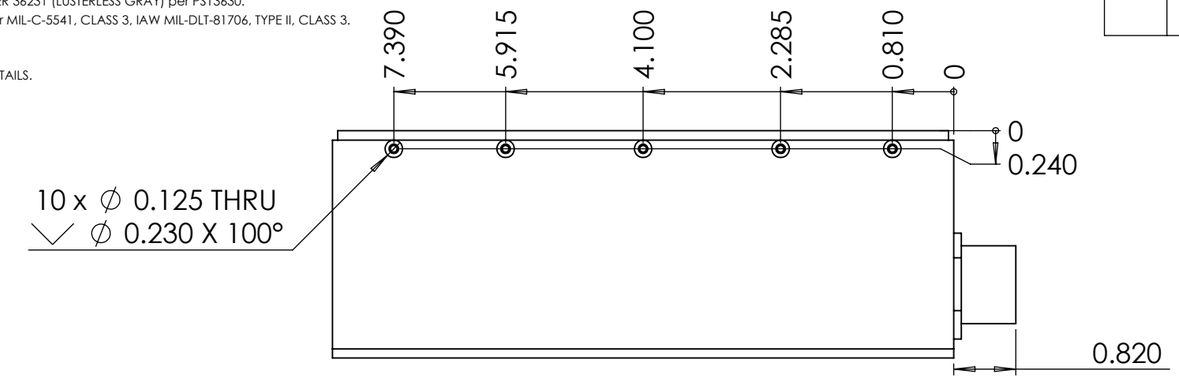
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B	06ES8	BG2802-M00	B02

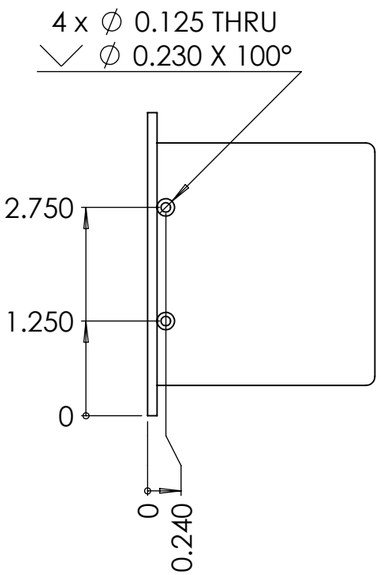
SCALE: 1:2 SHEET 1 OF 1

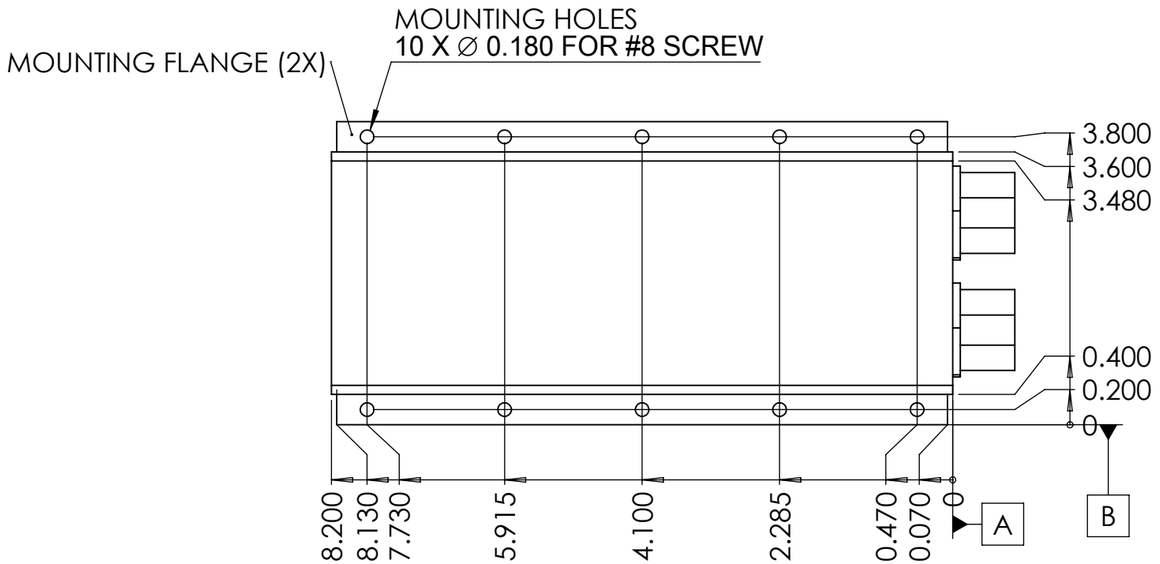
NOTES: UNLESS OTHERWISE SPECIFIED

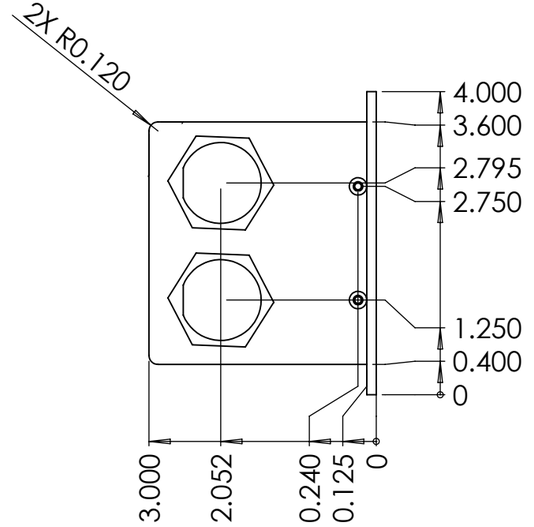
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4. SURFACE FLATNESS: 0.020" MAX
5. REMOVE ALL BURRS AND BREAK ALL SHARP EDGES.
6. REFER TO CAD MODEL "BG2802-M03 REV A01" FOR FURTHER DETAILS.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A01	INITIAL RELEASE	10/28/26	TH









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

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± N/A
DEGREES: ± .5
TWO PLACE DECIMAL ± .02
THREE PLACE DECIMAL ± .005

MATERIAL: SEE NOTE 2

FINISH: SEE NOTE 3

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CONTRACT NO.

APPROVALS	NAME	DATE
DRAWN	TH	10/28/26
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

AEGIS POWER SYSTEMS
MURPHY, NORTH CAROLINA

TITLE:
BG2802 MECHANICAL LAYOUT

AEGIS P/N: BG2802-M03

SIZE	FSCM NO.	DWG. NO.	REV
B	06ES8	BG2802-M03	A01

SCALE: 1:2 | SHEET 1 OF 1