SEC America Corp

www.secamerica.com

USER MANUAL

848HSBP

DC-DC Converter

March 10, 2023

TABLE OF CONTENTS

I Introduction

After removing the unit from its packaging and ensuring that it has suffered no damage in shipment, it is important to read this manual and follow its instructions to ensure proper connection and mounting. 848HSBP is an isolated dc-dc converter capable of operating extreme ambient temperatures and adverse conditions. See the specification sheet at the end of this manual for ratings. It has inrush surge current suppression and operates up to 70 VDC

II Installation

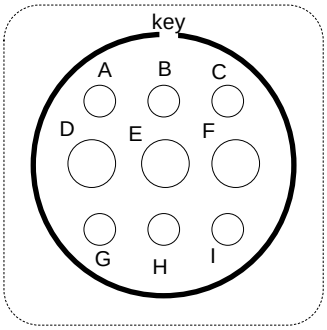
2.1 Mounting

The converter is designed to be mounted to flat metal surfaces offering optimum heat transfer from the converter base in environments where air flow is restricted. For best results, thermal transfer compound is a recommended interface between the converter and mounting surface. The [4] mounting slots in the flanges will accommodate mounting hardware up to ¼ inch diameter. (See figure #2 for mounting centers)

2.2 Connections

The Input/Output connector on the converter is shown in Figure 1 with designated pin functions.

Input/Output Connector



Canon 3102E24-11PB
Front View

Pin

A - Output Positive Sense

B - No Connection

C - Output Negative Sense

D - Output Positive

E - Housing Ground

F - Output Negative

G - Input Positive

H - Remote Turn On/Off

I - Input Negative

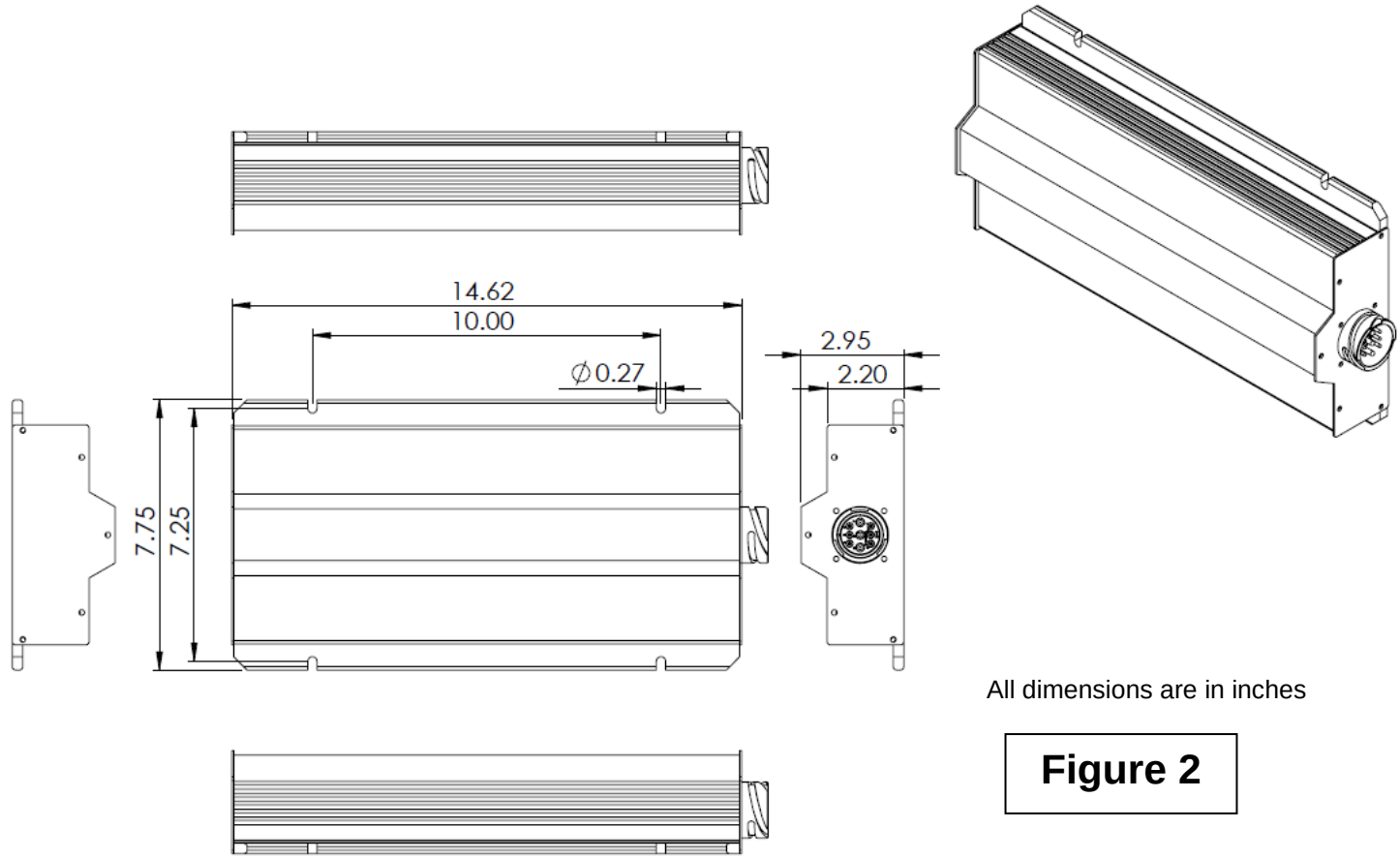
Figure 1

Cable side mating connector
Canon P/N 3106E24-11SB

Figure 1A

Pins	Maximum Wire Sizes
D,F	#8
E	#12 - #14
Others	#12

An option for users who wish to purchase a manufactured cable assembly is P/N 68-0749-6 which is 6 feet long and is a standard SEC part.



All dimensions are in inches

Figure 2

III Regulation With Remote Sense

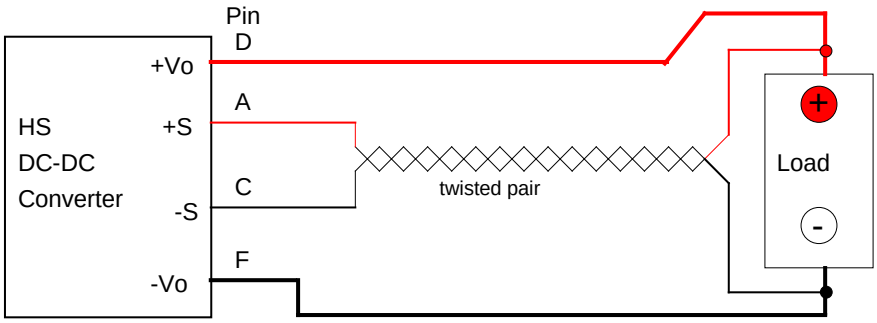


Figure 3

The 848HSBP provides regulated outputs at the output terminals. When there is a large current and/or the output cable is of excessive length (longer than 6 feet), the voltage at the end of the cable may be noticeably lower than at the terminals. The converter can compensate up to 0.75V of voltage drop through remote sense terminals. To ensure accurate regulation, users should run two separate wires (twisted from the desired regulation points to the remote sense terminals) Wires of gauge 24 or thicker are adequate for sensing. Even if load currents are low, users will realize better regulation by connecting +Vo to +S and –Vo to –S. **DO NOT REVERSE THE SENSE LINES, A IS POSITIVE, C IS NEGATIVE. REVERSAL MAY RESULT IN PERMANENT DAMAGE.**

IV User Adjustments

848HSBP is gasket-sealed. Changes or adjustments to the operating modes are accomplished internally:

1) To gain access, (Disconnect power from the unit before opening) remove the 5 outer black hexagonal head screws retaining the connector plate as shown in Figure #4. Then remove the 4 screws surrounding the connector. This will free the front panel for removal.

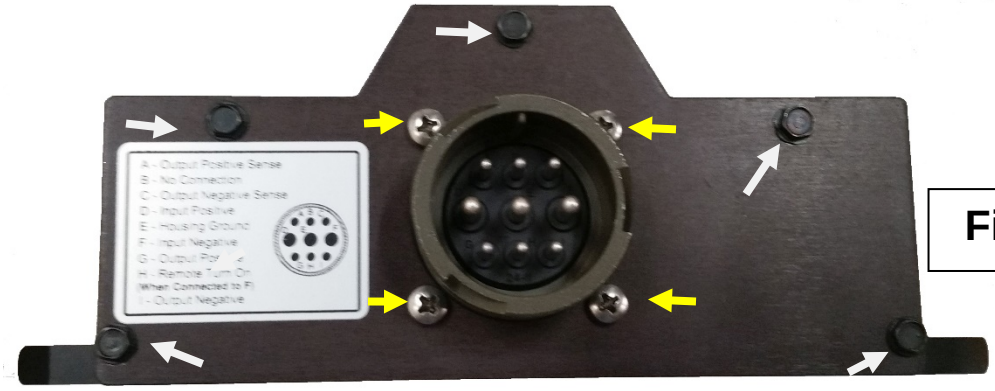


Figure 4

2) After the screw removal, lift the panel off the connector to expose the internal components as shown. Figure#5 shows the adjustments and their locations.

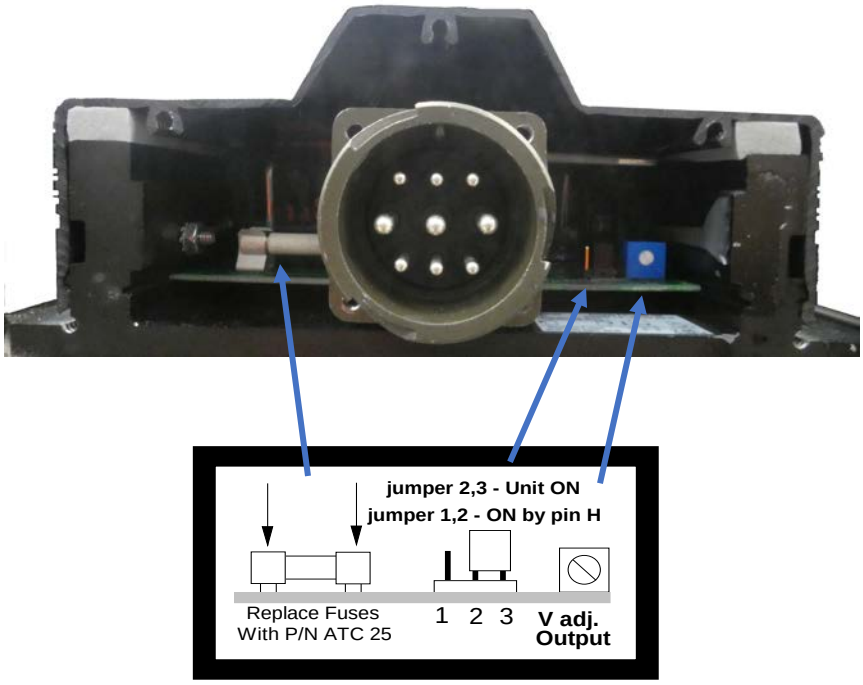


Figure 5

Accessible Adjustments:

A) **Output voltage** is trimmed by adjusting the potentiometer P1 (on the right).
B) **Remote "Turn On" Disabled:** Units are shipped from factory with pins 2 and 3 of the connector [CON1] jumpered as shown. This programs the unit to be "ON" when source power is applied.
C) **Remote "Turn On" Enabled:** To program the unit for remote enable, shift the jumper from pin positions 2 and 3 of [CON1] to positions 1 and 2. In this mode the unit will energize when pin H is connected to the negative input line pin I.

D) **Fuse Replacement:** In the unlikely event that fuses F1,2 will open, disabling the unit, DO NOT CHANGE FUSES WITH THE POWER APPLIED. In order to restore normal operation, the user will need to ensure that the cause of the failure has been removed. Then the blown fuses need to be removed by gently prying them out of their clips and replacing them with ones of identical ratings. Notwithstanding the above the user should take every precaution to ensure that a reversed polarity input is avoided. Any polarity reversals may result in permanent damage.

3) Restore the front plate to its original position by replacing the (4) connector securing screws and then the (5) front plate hex head screws making sure the gasket is compressed.

IV Warranty and Repair

Should your investigations indicate that your product is defective or damaged and the unit is still under warranty, contact your dealer (purchase point of origin) and obtain a return merchandise authorization (RMA number) for corrective action.

If the warranty period has expired or if the warranty has been violated due to operator error or misuse call: SEC America Corp. 802-865-8388 to receive an authorization for return for an assessment and possible repair.

Warranty

848HSBP Series models come with a 2-year factory warranty covering parts and labor per the following:

LIMITED WARRANTY

We warrant each instrument, sold by us, or our authorized agents, to be free from defects in material and workmanship and that it will perform within applicable specifications for a period of two year after original shipment. Our obligation under this guarantee is limited to repairing or replacing any instrument or any part thereof,except fuses and pilot lights, which shall within one year after delivery to the original purchaser, be returned to us with transportation charges prepaid, prove after our examination to be thus defective.

The above limited warranties take the place of all other warranties, expressed or implied, and correction of such defects by replacement or repair shall constitute a fulfillment of all obligations under the terms of the warranties. The warranties do not cover any unit that has been damaged either in transit or by misuse, accident or negligence. No warranty or representation by anyone other than this Company shall be binding on us.

To return a unit to factory, send only to the following address:

SEC America Corp.
78 Ethan Allen Drive
South Burlington, Vermont 05403 Tel: 802-865-8388

PLEASE RETAIN YOUR ORIGINAL BILL OF SALE. IT MUST BE SUBMITTED WHEN MAKING ANY WARRANTY CLAIM

SEC AMERICA CORP.

48 to 12 VDC Isolated Converter
Model 848HSBP
Step-Down Sealed DC-DC Converter

Design Features

- Wide Range Input Voltage
- High Efficiency Design
- Hi Ingress Rating, IP 67
- Adjustable Output Voltage
- Optional Remote Output Voltage Sensing
- Optional Remote On/Off switching
- Low/High Input Voltage Cutouts
- Electronically Current Limited
- Thermally Protected
- Low No Load Power Consumption
- I/O Bayonet Quick Connection

	MODEL NO.	848HSBP
INPUT	NOMINAL INPUT VOLTAGE RANGE	44 to 56 VDC
	MAXIMUM INPUT VOLTAGE RANGE	40 to 70 VDC
	INPUT CURRENT WITH LOAD AT 60A; 13.0 Vout	**18A with input at 48.0 V**
	INPUT CURRENT AT NO LOAD	< 160 mA over entire input and output ranges
OUTPUT	OUTPUT VOLTAGE NOMINAL	13.0 +,- 0.1 VDC (factory adjusted)
	OUTPUT VOLTAGE ADJUSTMENT RANGE	11.8 to 14.5 VDC (internally accessible to user)
	OUTPUT LOAD REGULATION	200 mV (without remote sensing) <30 mV (with remote sensing)
	OUTPUT VOLTAGE REGULATION	< 0.2% with input excursions from 46-56 VDC
	OUTPUT RIPPLE	50 mV RMS at maximum load (measured at 25C)
	MAXIMUM CONTINUOUS OUTPUT POWER	780W
	POWER SURGE	850W
	MAXIMUM LOAD CURRENT	60 ADC, for output voltage setting 11.7-13.2 VDC
	EFFICIENCY	Not less than 88% at 48V full load
PROTECTION	LOW INPUT VOLTAGE SHUTDOWN	40V +,- 1V
	HIGH INPUT VOLTAGE SHUTDOWN	70V +,-1V
	OVERLOAD SHUTDOWN	Knee current limit starting at 110% of maximum current
	ISOLATION	Input/Output-1800V, Input/Housing-2500V
	OVER TEMPERATURE SHUTDOWN	Via internal thermostat, self resetting
	COOLING	By conduction through base plate and convection
	FUSING	Customer accessible by front panel removal
CONNECTIONS	INPUT/ OUTPUT CONNECTION	Via 9 pin Bayonet connector (see owner's manual)
	REMOTE TURN ON	Via pin H jumpered to -ve Pin I on input connector, may be disabled via internal jumper
	REMOTE SENSE	Via 2 pins on the output connector usage is optional (see user manual)
GENERAL	OPERATING TEMPERATURE RANGE	-40C to 70C, 100% loading
	OPERATING HUMIDITY	100% non condensing
	INGRESS RATING	IP 67
	MOUNTING SLOT CENTERS (in./cm.)	10.0 x 7.3 / 25.4 x 18.5
	DIMENSIONS, (in./cm.) (L x W x H)	15.5 x 8.0 x 2.9 / 39.4 x 20.3 x 7.4
	HOUSING MATERIAL	All Aluminum
	WEIGHT, (lb./kg.)	12 /5.5

NOTE: Specifications are subject to change without notice.

Rev 03/06/2019

P.O. Box 2266
South Burlington
VT 05403
78 Ethan Allen Drive
Tel: 802-865-8388
Fax: 802-865-8389

cage code 07KU1

www.secamerica.com

Printed in U.S.A.