

EP 30W-40W Series - Wide Input Range DC-DC Converter

Features

30-40W DIL PACKAGE
SIX-SIDE SHIELDED CASE
INDUSTRY STANDARD PACKAGE
9-18V,18-36V,36-72V WIDE INPUT
RANGE
100% BURN IN
HIGH EFFICIENCY
RoHS COMPLIANT



Specification

Output Specification

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹	100mVp-p max.
Line Regulation ²	+/-0.5% max.
Load Regulation ³	+/-0.5% max.
Minimum load	10% of Full Load
Short Circuit Protection	Continuous
Over Voltage Protection	Built-in
External Trim Adj. Range	+/-10%

Input Specification

Input Voltage Range	2:1 INPUT RANGE
Input Filter	Pi Network

Environmental Specifications

Operating Temperature	-40°C to +71 °C
Storage Temperature	-55 °C to +100 °C
Cooling	Free-Air Convection

General Specifications

Efficiency	80% min.
Isolation Voltage ⁴	1500 VDC min.
Isolation Resistance	109 ohms min.
Isolation Capacitance	1200pF max.
Switching Frequency	100 KHz min.
MTBF ⁵	>700,000 Hours
Weight	110g Typ.
Case Material	Six-Side Shielded Case
Case Size	50.8mm*50.8mm*21mm
Potting Material	Epoxy(UL94V-0)
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD, AND 25 °C UNLESS OTHERWISE NOTED

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² High Line to Low Line

³ Load Regulation is for output load current change from 10% to 100%.

⁴ For 10 seconds.

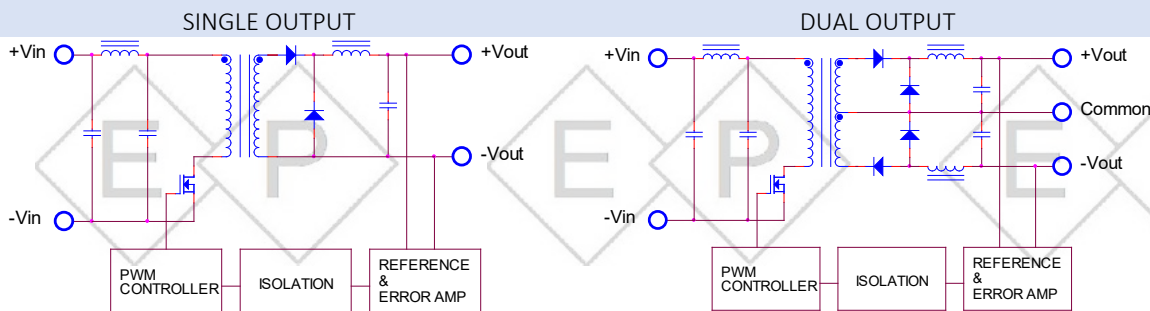
⁵ MIL-HDBK-217F @25 °C, Ground Benign

Selection Guide 2:1 30-40W Output

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁶ CURRENT(mA)		EFF (%) ⁷	CAPACITOR LOAD (Max)
				FULL LOAD	NO LOAD		
EP9-18-12S3000	9-18	12	3000	3650	40	82	1800uF
EP9-18-15S2400	9-18	15	2400	3655	40	82	1500uF
EP9-18-24S1500	9-18	24	1500	3640	40	82	1000uF
EP9-18-30S1200	9-18	30	1200	3645	40	82	820uF
EP18-36-12S3000	18-36	12	3000	1820	18	82	1800uF
EP18-36-15S2400	18-36	15	2400	1810	18	83	1500uF
EP18-36-24S1667	18-36	24	1667	1950	18	85	1000uF
EP18-36-12D1650	18-36	+/-12	+/-1650	1960	18	85	+/-820uF
EP18-36-15D1300	18-36	+/-15	+/-1300	1960	18	85	+/-680uF
EP36-72-12S3000	36-72	12	3000	910	9	82	1800uF
EP36-72-15S2400	36-72	15	2400	902	9	83	1500uF
EP36-72-24S1667	36-72	24	1667	976	9	85	1000uF
EP36-72-12D1650	36-72	+/-12	+/-1650	980	9	85	+/-820uF
EP36-72-15D1300	36-72	+/-15	+/-1300	980	9	85	+/-680uF

Note: Other input to output voltages may be available. Please contact factory.

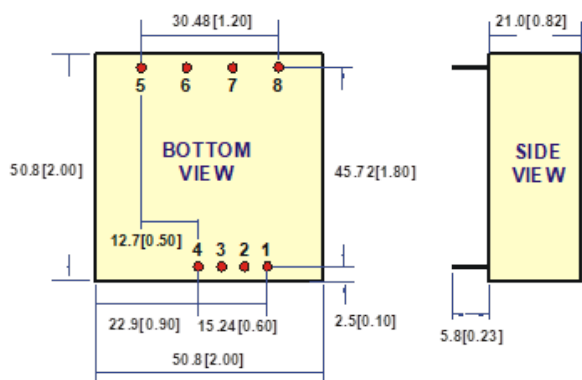
Simplified Schematic



⁶ NOMINAL INPUT VOLTAGE.

⁷ NOMINAL INPUT VOLTAGE, FULL LOAD.

Mechanical Dimensions



All dimensions are in millimeters [inches]

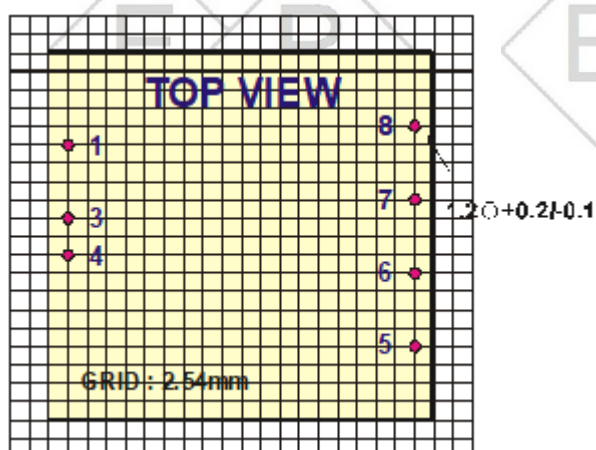
PIN	SINGLE	DUAL
1	Remote On/Off	
2	NO PIN	
3	-Vin	-Vin
4	+Vin	+Vin
5	NC	+Vout
6	+Vout	Common
7	-Vout	-Vout
8	TRIM	TRIM

Note: **SINGLE OUTPUT for 24V: PIN 5 = NO PIN

Remote On/Off Control

Control Input	PIN1	Control Common	PIN3
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open Collector TTL

Recommended Footprint Details

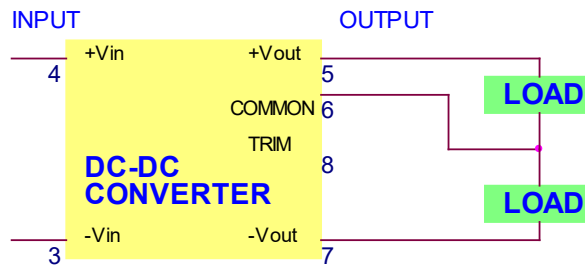
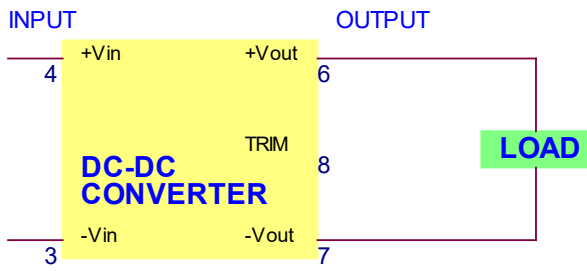


Typical Applications

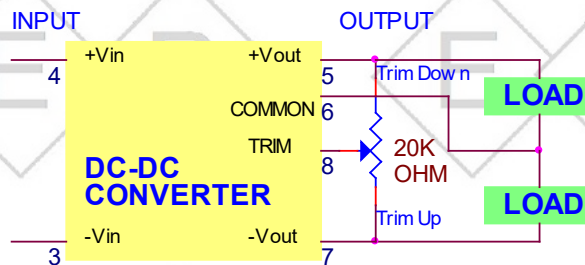
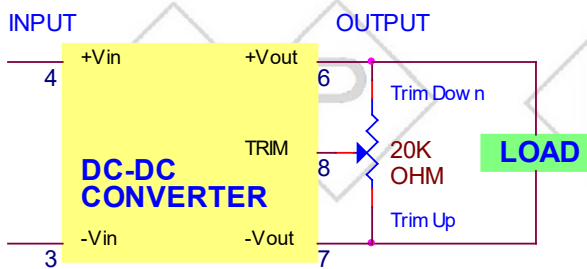
SINGLE OUTPUT

DUAL OUTPUT

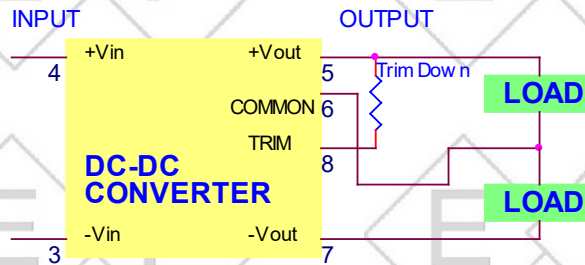
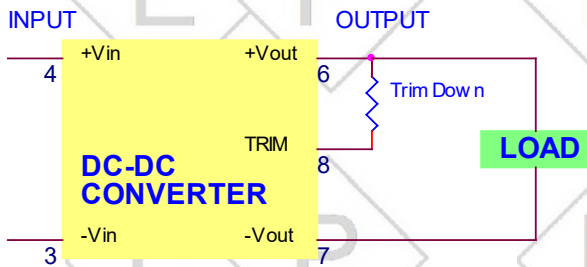
FIXED VOLTAGE OUTPUT



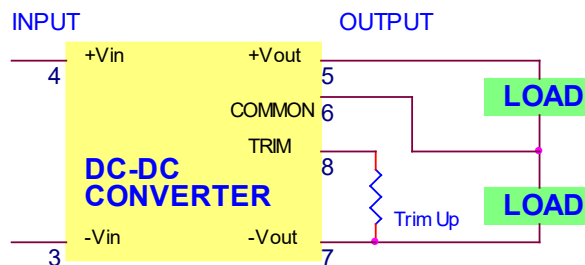
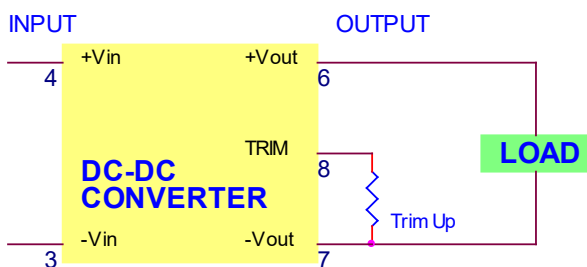
TRIM CONNECTIONS USING A TRIMPOT



FIXED-VALUE TRIM DOWN RESISTOR



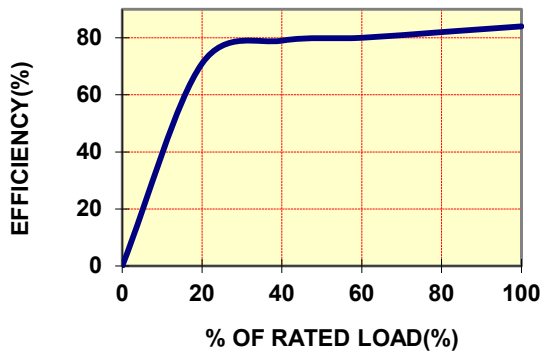
FIXED-VALUE TRIM UP RESISTOR



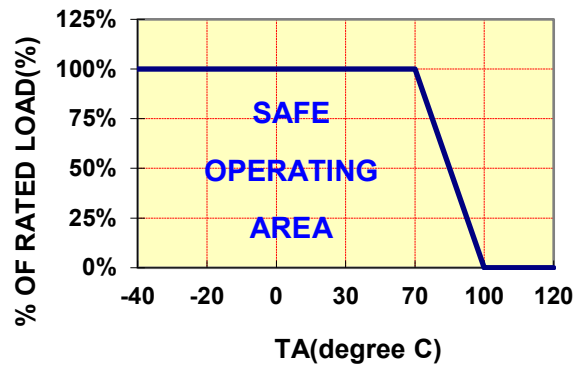
Typical Performance Curves

Specifications typical at $T_a=25^{\circ}\text{C}$, nominal input voltage, rated output current unless otherwise specified.

OUTPUT LOAD VS EFFICIENCY

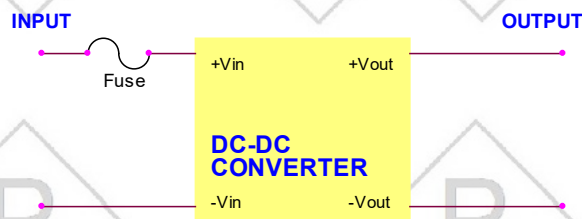


TEMPERATURE DERATING



Input Fuse Selection Guide

9-18V	18-36V	36-72V
INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)
10000mA Slow-Blow Type	6000mA Slow-Blow Type	3000mA Slow-Blow Type



Note: Certain applications may require the installation of external fuse in front of the input.

EP30-40W SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the EP30-40W series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 220 KHz is required.

External output capacitance is not required for operation; however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 2200uF.

We Can Offer EMC-Filter According To EN55011/22 Class B

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.

Remote ON/OFF:

The remote ON/OFF pin may be left floating if this function is not use. It is recommended to drive this pin with an open collector arrangement or a relay contact. When the ON/OFF pin is pulled low with respect to the -VIN, the converter is placed in a low power drain state.

Output TRIM:

The TRIM pin may be used to adjust the output +/-10% from the nominal setting .this function allows adjustment for voltage drops in the system wiring. If the TRIM function is not required the pin may be left floating.

Spezifikationen können sich ohne Vorankündigung ändern.

Für etwaige fehlerhafte Angaben oder unvollständige Bezeichnungen kann keine Haftung übernommen werden.