DC/DC CONVERTERS

1400 SERIES

CURTIS

DESCRIPTION

The 1400 High Efficiency Series DC/DC Converter applies advanced technology and is configured specifically for electric vehicles. Available in 250W and 375W models, the devices provide a precise regulated output of 12.0 or 24.0 volts for computer terminals and communication equipment. Provides 13.5 or 28.0 volts for driving lamps and charging auxiliary batteries.

APPLICATION

Designed to provide a reduced voltage supply to power auxiliary electrical systems, the Curtis 1400 Series High Efficiency DC/DC Converters achieve unmatched levels of efficiency and safety.

FEATURES

- Maximum pulse power exceeds 125% of the nominal rating.
- Simple to install, compact and versatile—can be mounted in any position.
- Safe to use, di-electrically isolated output, thermal protection, transient protection, reverse polarity protection.
- Provides power to auxiliary electrical circuits on an electrical vehicle without recourse to battery tapping which is unsafe, damaging to the battery and may contravene EC regulations.
- Regulated outputs preclude lights from dimming and other effects of voltage drop caused by battery loading.
- Input and output are di-electrically isolated for maximum safety.
- Over 85% efficient with high power density.
- The output is regulated to +/– 1.5%. Model 1400 Series is superior to previously available converters and prevents battery damage and unsafe installations caused by battery tappings.
- Due to superior efficiency less heat is generated which, together with transient protection, leads to improved reliability.
- Smaller, lighter and significantly more quiet than conventional converters.

OPTIONS

- Available in both 250 Watt peak and 375 Watt peak models.
- Range of models to cover 24 to 96 volt input with 12.0, 13.5, 24.0 or 28.0 volt output.

1400 SERIES

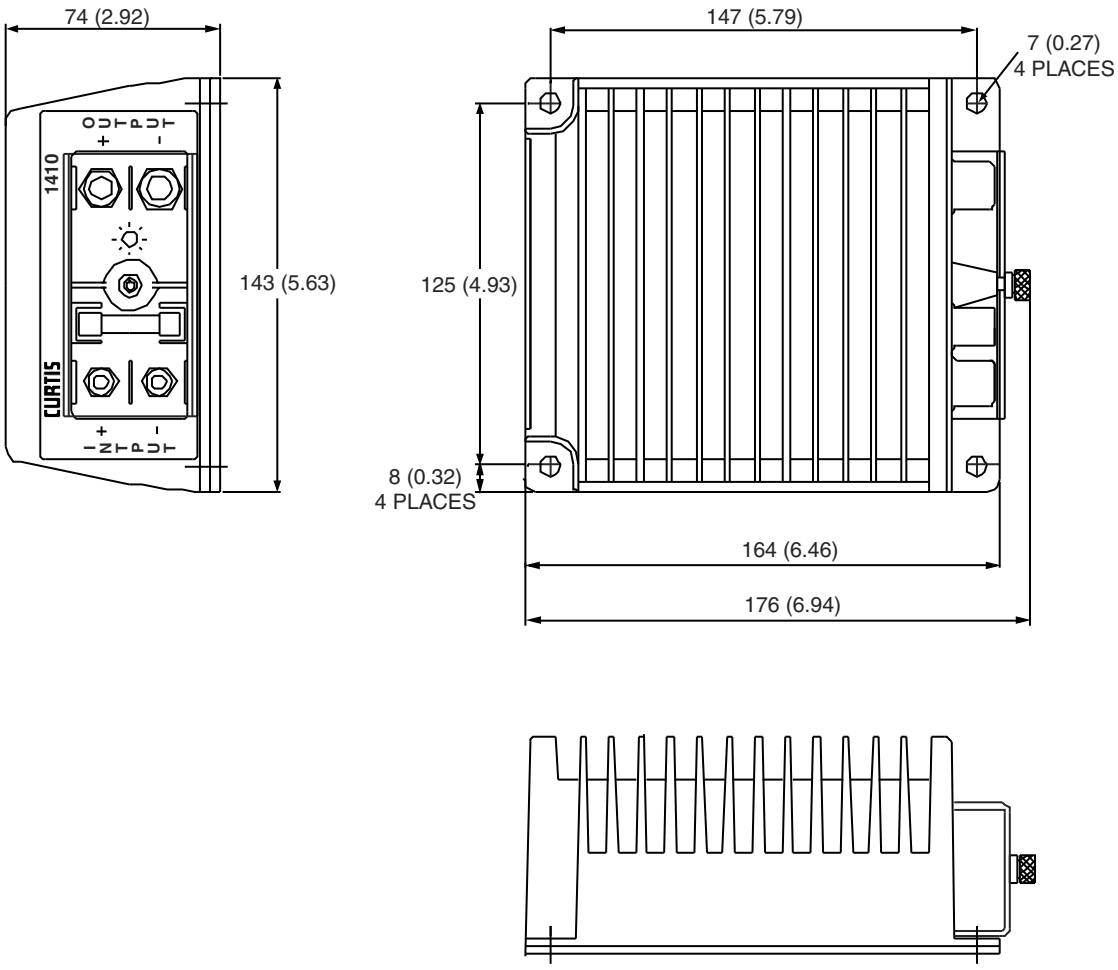
SPECIFICATIONS

	1400 E	1410 E
Maximum Peak Power	375W	250W
Nominal Power Rating	300W	200W
Isolated	Yes	Yes
Frequency	60KHz	60KHz
Input Voltages available	24/36; 48/60; 72/96	36/48; 72/96
Output Voltage	12V; 13.5V; 24V; 28V	12V; 13.5V; 24V; 28V
Current Limit @ 12V	30A	20A
Nominal Current Output (1 hr. rating)	25A	15A
Current Limit @ 24V	15A	10A
Nominal Current Output (1 hr. rating)	12.5A	7.5A
Output Voltage Regulation	+/– 1.5%	+/– 1.5%
Output voltage ripple	<1%	<2.5%
Input voltage	65% to 115% of nominal	65% to 115% of nominal
Output short circuit protection	Yes	Yes
Input Reverse polarity protection	Yes	Yes
Efficiency	>85%	>85%
Weight	1.6 kg (3.52 lb)	2.1 kg (4.6 lb)
Size	176mm x 143mm x 74mm	176mm x 143mm x 74mm
Termination	Bolt/Nut, Input: M5, Output: M6	
Input/Output	Di-electrically isolated conforms to EEC 86/663 and UL 583 Standards	
Input Transient Protection	+/– 500V at 500Hz	+/– 500V at 500Hz
Di-electric Isolation	1000 volts, at 60Hz sinusoidal for 1 minute	
Thermal Protection	Thermal switch cuts off at +80°C and resets at +60°C (internal temperature)	
Ambient Operating Temp. Range	–30°C to +55°C	–30°C to +55°C
Storage Temp. Range	–40° to +100°C	–40° to +100°C
Environment Protection	Case: IP65 (terminations IP20)	Case: IP65
Shock and Vibration	SAE J1378, March 1983	
EMC Specifications	EN50081-1 for emission / EN50082-2 for immunity	

MODEL ENCODEMENT

1400E/1410E	-	**vvvv**	-	**model suffix**
Model #		input voltage		

DIMENSIONS mm (in)



AVAILABLE MODELS

Model	1400E OUTPUT VOLTAGE	1410E	1400E NOMINAL OUTPUT CURRENT LIMIT	1410E
1201	13.5VDC	13.5VDC	22.2A	14.8A
1203	12.0VDC	12.0VDC	25.0A	16.7A
1211	13.5VDC	–	22.2A	–
1212	14.0VDC	–	21.4A	–
2401	28.0VDC	28.0VDC	10.7A	7.1A
2403	24.0VDC	24.0VDC	12.5A	8.4A

WARRANTY Two Year Limited Warranty from time of delivery.