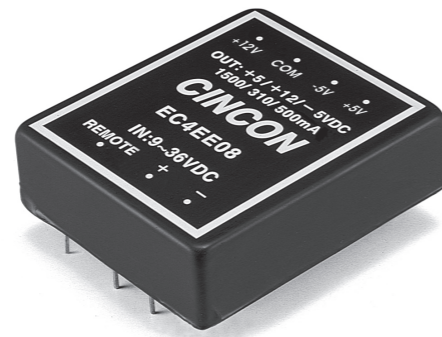


# EC4EE

S E R I E S

## 15 WATT 4:1 INPUT RANGE DC-DC CONVERTERS



### Features

- 15W Isolated Output
- 4 : 1 Input Range
- Six-Sided Shield Metal Case
- Regulated Outputs
- Efficiency to 82%
- Fixed 200KHz Switching Frequency
- Remote On/Off Control

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		% EFF.	SIZE
				NO LOAD	FULL LOAD		
EC4EE01	9-36 VDC	5 VDC	3000 mA	15 mA	810 mA	77	2.56" x 3"
EC4EE02		12 VDC	1250 mA	15 mA	780 mA	80	
EC4EE03		15 VDC	1000 mA	15 mA	780 mA	80	
EC4EE04		±12 VDC	±625 mA	20 mA	780 mA	80	
EC4EE05		±15 VDC	±500 mA	20 mA	780 mA	80	
EC4EE06		5/±12 VDC	1500/±310 mA	20 mA	780 mA	80	
EC4EE07		5/±15 VDC	1500/±250 mA	20 mA	780 mA	80	
EC4EE08		+5/+12/-5 VDC	1500/310/500 mA	20 mA	715 mA	80	
EC4EE11	18-72 VDC	5 VDC	3000 mA	10 mA	410 mA	77	2.56" x 3"
EC4EE12		12 VDC	1250 mA	10 mA	390 mA	80	
EC4EE13		15 VDC	1000 mA	10 mA	390 mA	80	
EC4EE14		±12 VDC	±625 mA	15 mA	380 mA	82	
EC4EE15		±15 VDC	±500 mA	15 mA	380 mA	82	
EC4EE16		5/±12 VDC	1500/±310 mA	15 mA	380 mA	82	
EC4EE17		5/±15 VDC	1500/±250 mA	15 mA	380 mA	82	
EC4EE18		+5/+12/-5 VDC	1500/310/500 mA	15 mA	350 mA	82	

NOTE: 1. Nominal Input Voltage 24 or 48 VDC

### Specifications

#### INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	9-36V
	48V.....	18-72V
Input Filter.....		Pi Type

#### OUTPUT SPECIFICATIONS:

Voltage Accuracy		
Single Output.....		±1.0% max.
Dual +Output.....		±1.0% max.
-Output.....		±3.0% max.
Triple, 5V.....		±2.0% max.
12V/15V.....		±3.0% max.
Voltage Balance (Dual).....		
		±1.0% max.
Transient Response:		
Single, 25% Step Load Change.....		<500µ sec.
Dual-FL-1/2L ±1% Error Band.....		<500µ sec.
External Trim Adj. Range.....		±10%.
Ripple & Noise, 20MHz BW.....		
		10mV RMS, max.
		75mV p-p max.
Temperature Coefficient.....		± 0.02%/°C
Short Circuit Protection.....		
		Continuous
Line Regulation <sup>1</sup> , Single/Dual.....		
		±0.2% max.
	Triple.....	±1.0% max.
Load Regulation <sup>2</sup> , Single/Dual.....		
		±1.0% max.
	Triple.....	±5.0% max.

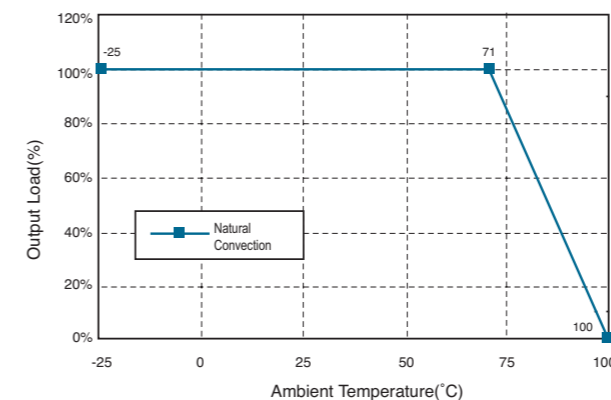
#### GENERAL SPECIFICATIONS:

Efficiency.....		See Table
Isolation Voltage.....		500 VDC min.
Isolation Resistance.....		10 <sup>9</sup> ohms
Switching Frequency.....		200KHz, typ.
Operating Ambient Temperature Range .....		-25°C to +71°C
De-rating, Above 71°C .....		Linearly to Zero power at 100°C
Case Temperature <sup>3</sup> .....		100°C max
Cooling .....		Natural Convection
Storage Temperature Range.....		-55°C to + 105°C
EMI/RFI.....		Six-Sided Continuous Shield
Dimensions.....		2.56 x 3.00 x 0.83 inches (65.0 x 76.2 x 21.1 mm)
Case Material.....		Black Coated Copper with Non-Conductive Base
Weight.....		1.75g

#### NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to 1/4 Load
3. Maximum case temperature under any operating condition should not exceed 100°C.

### EC4EE Series Derating Curve

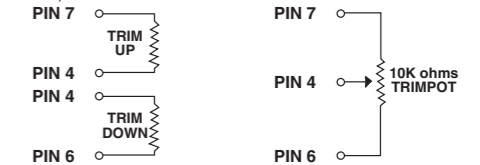


### Remote On/Off Control

Logic Compatibility	CMOS or Open Collector TTL
Ec-On	>+5.5 VDC or Open Circuit
Ec-Off	<1.8 VDC
Shutdown Idle Current	10mA
Control Common	Referenced to Input Minus

### External Output Trimming

Output may optionally be externally trimmed (±10%) with a fixed resistor or an external trimpot as shown.



### PIN CONNECTION

Pin	Single Output	Dual Output	Triple Output
1	+Input	+Input	+Input
2	-Input	-Input	-Input
3	No Pin	+Output	+Output
4	Output Trim	Common	Common
5	No Pin	-Output	-Output
6	+Output	No Pin	+5V Output
7	-Output	No Pin	No Pin
8	Remote On/Off Control		

### TRIPLE OUTPUT LOADING TABLE (1)

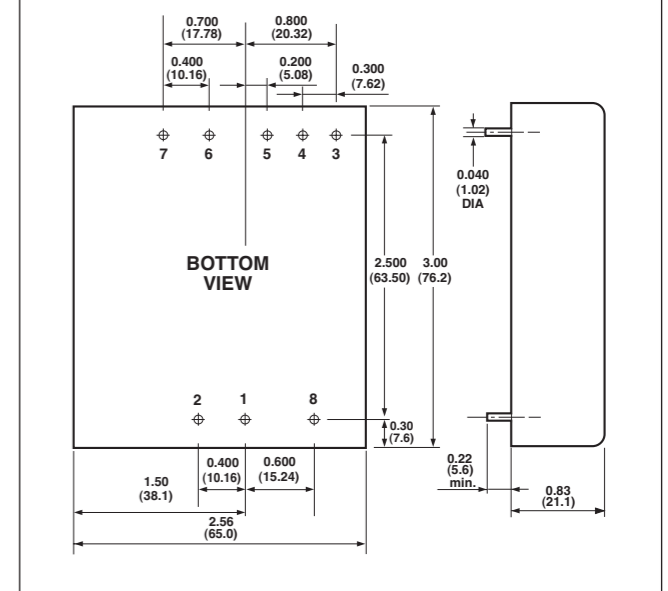
Output (Pin No.)	Voltage	Amperes	
		Min.(2)	Nom.
6	+5	0.25	1.5
3 & 5	+12 & -12	0.10	0.31
3 & 5	+15 & -15	0.10	0.25
3 & 5	+12 & -5	0.10 / 0.10	0.31/0.50

#### NOTE:

1. Maximum total power from all outputs is limited to 15 watts but no output should exceed its maximum current.
2. Minimum current on each output is required to maintain specified regulation.

### CASE E

All Dimensions In Inches(mm)  
Tolerance Inches: x.xx= ±0.04, x.xxx= ±0.010  
Millimeters: x.x= ±1.0, x.xx= ±0.25



All Specifications Typical At Nominal Line, Full Load and 25°C Unless Otherwise Noted.