



## SERIES DCI HIGH-ISOLATION DC POWER CONVERTERS

Meets UL544 Leakage  
 8 Models; 5, 12, 24 or 28 VDC Input,  $\pm 12$  or  $\pm 15$ V, 60 mA DC Output  
 Very High Input/Output Isolation:  
 8000 VDC,  $10^{11} \Omega$  || 5 pF typical  
 Excellent Regulation: 0.05% Line, 0.05% Load  
 Short-Circuit Current Limiting to 150% of Rated Current  
 No Heat Sink Required—No Derating over  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$

### APPLICATIONS

Medical monitors such as EKG, EEG, and EMG.

Isolated power for optical or transformer isolation amplifiers.

Industrial applications requiring high isolation voltage or low capacitance.

Compatible with Intronics isolation amplifiers.

Series DCI modules are DC-to-DC regulated power converters that combine exceptionally high input/output isolation with high-grade dynamic performance. They feature a typical input-to-output impedance of  $10^{11} \Omega$  in parallel with 5 pF and a breakdown voltage of 8000 VDC for complete isolation of the output circuits from the DC bus when high common-mode load voltages must be used. The three models offer a choice of operation from 5 VDC logic power, 12 VDC, or 28 VDC system buses or batteries and deliver floating analog power at  $\pm 15$  VDC, tightly regulated to 0.05% for line or load variations. No cooling means other than free-air convection is required over the full operating temperature range of  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$ . The output is short-circuit protected by automatic current-limiting to 150% of rated current. Restarting is automatic after removal of the short.

### CHARACTERISTICS

(Typical @  $25^{\circ}\text{C}$  unless otherwise noted.)

DCI	MODELS			
	5/12/60 5/15/60	12/12/60 12/15/60	24/12/60 24/15/60	28/12/60 28/15/60
<b>Input Voltage for Rated Operation</b>	5 $\pm$ 0.5 VDC	12 $\pm$ 0.5 VDC	24 $\pm$ 2.4 VDC	28 $\pm$ 2.8 VDC
<b>Input Current</b> No Load Full Load	125 mA 670 mA	50 mA 275 mA	25 mA 150 mA	20 mA 120 mA
<b>Input Capacitance</b>	5 pF	5 pF	5 pF	5 pF
<b>Input/Output Isolation (typical)</b> Impedance Voltage	$10^{11} \Omega$    5 pF 8000 VDC	$10^{11} \Omega$    5 pF 8000 VDC	$10^{11} \Omega$    5 pF 8000 VDC	$10^{11} \Omega$    5 pF 8000 VDC
<b>Reflected Input Ripple</b>	1% $V_{IN}$	1% $V_{IN}$	1% $V_{IN}$	1% $V_{IN}$
<b>Output Voltage</b>	$\pm 12$ VDC or $\pm 15$ VDC, $\pm 2\%$			
<b>Output Current @ Full Load</b>	$\pm 60$ mADC	$\pm 60$ mADC	$\pm 60$ mADC	$\pm 60$ mADC
<b>Regulation</b> Line Load vs. Temperature	.05% .05% .01%/°C	.05% .05% .01%/°C	.05% .05% .01%/°C	.05% .05% .01%/°C
<b>Output Ripple p-p</b>	11 mV typ., 35 mV max.	11 mV typ., 35 mV max.	11 mV typ., 35 mV max.	11 mV typ., 35 mV max.
<b>Case Material</b>	Phenolic	Phenolic	Phenolic	Phenolic
<b>Settling Time to 0.1% no load-full load</b>	50 $\mu$ sec	50 $\mu$ sec	50 $\mu$ sec	50 $\mu$ sec
<b>Short-Circuit</b> Current Duration	90 mA 8 hours min.	90 mA 8 hours min.	90 mA 8 hours min.	90 mA 8 hours min.
<b>Temperature Range</b> Operating/Storage	$-25^{\circ}\text{C}$ to $+71^{\circ}\text{C}$ / $-25^{\circ}\text{C}$ to $+110^{\circ}\text{C}$			
<b>Nominal Weight</b>	4 1/4 oz. (120 g)	4 1/4 oz. (120 g)	4 1/4 oz. (120 g)	4 1/4 oz. (120 g)
<b>Mating Socket</b>	S133	S133	S133	S133

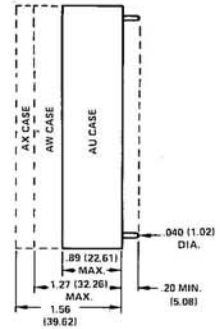
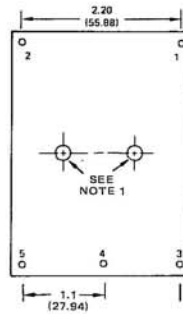
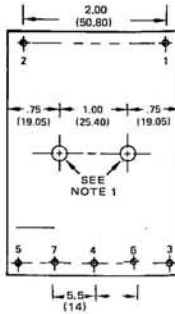
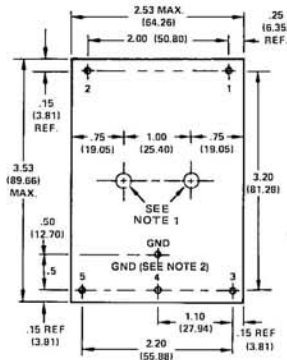
'Option "T": Output trimmed at factory to  $\pm 1\%$ .

Intronics manufactures a complete line of isolation amplifiers.  
 Consult factory for data sheets.

# DIMENSIONS & PINOUTS

Dimensions shown in inches and (mm)

## SM, SME, EPM, DCW



**BOTTOM VIEW**  
SME, SM:  
TRIPLE OUTPUT

1. EPM, SME, SM  
SINGLE & DUAL OUTPUT  
SUPPLIES, OPTION D
2. DCW:  
DUAL OUTPUT SUPPLIES

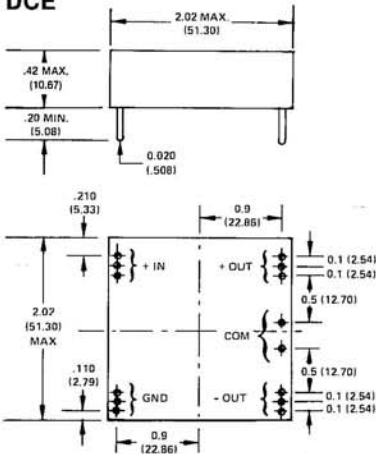
**SIDE VIEW**

EPM, SME, SM:  
SINGLE & DUAL OUTPUT  
SUPPLIES  
DCW:  
SINGLE OUTPUT SUPPLIES

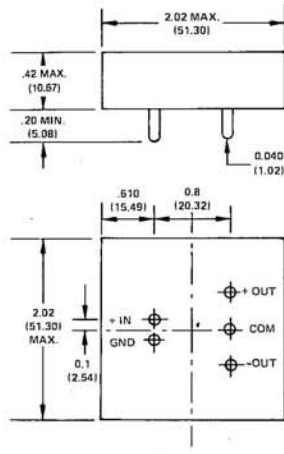
PIN	SM, SME SINGLE OUTPUT	SM, SME, EPM DUAL OUTPUT	DCW (2) SINGLE OUTPUT	DCW (2) DUAL OUTPUT	SM, SME TRIPLE OUTPUT
1	AC	AC	+VDC IN	+VDC IN	AC
2	AC	AC	-VDC IN	-VDC IN	AC
3	COM (3)	-VDC OUT	+VDC OUT	+VDC OUT	COM
4	N.C. (3)	COM	N.C. (4)	N.C. (4)	-15 VDC
5	VDC OUT	+VDC OUT	-VDC OUT	-VDC OUT	+15 VDC
6	N/A	N/A	N/A	N/A	+5 VDC
7	N/A	N/A	N/A	N/A	COM

- NOTES**
1. TWO MOUNTING INSERTS 4-40 x .10 DP min.
  2. ELECTROSTATIC INTERWINDING SHIELD GROUND (OPTION I ONLY).
  3. FOR "D" OPTION PIN 4 IS COMMON AND PIN 3 IS NC.
  4. TTL SHUT DOWN ON DCW 4000, 1700, 1500.
  5. OUTPUT LOW CONNECTED TO CASE.

## DCE

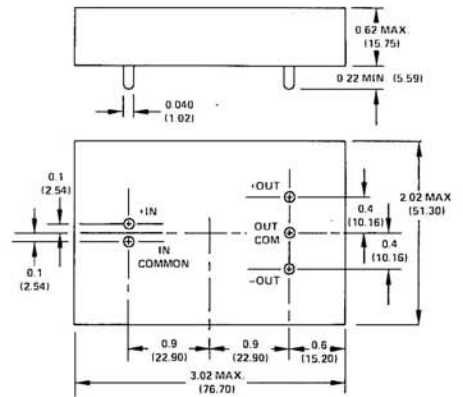


**BOTTOM VIEW**

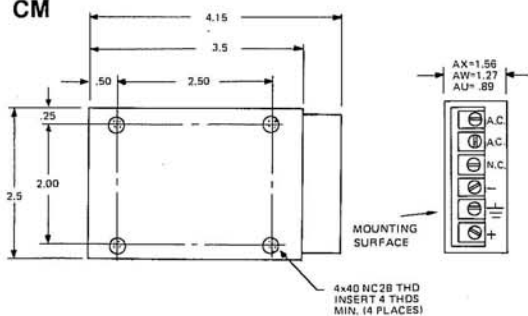


**OPTION A**

## DCI

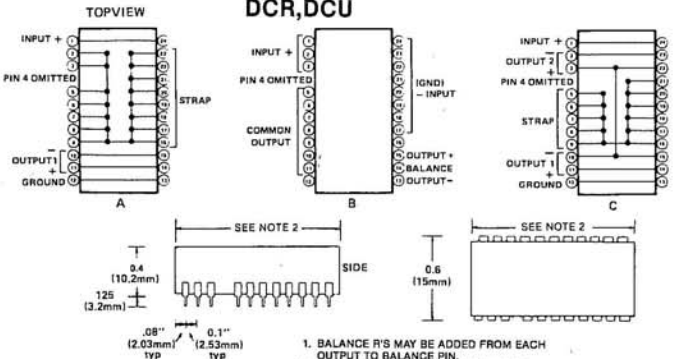


## CM



4x40 NC28 THD INSERT 4 THDS MIN. (4 PLACES)

## DCR, DCU



1. BALANCE R'S MAY BE ADDED FROM EACH OUTPUT TO BALANCE PIN.
2. LENGTH FOR CASE A AND B IS 1.10 (27). LENGTH FOR CASE C IS 1.25 (31).