

T-57-11



## WR SERIES Dual Output

- 2:1 Input Range
- Efficiencies to 86%
- 15 or 30 Watts From Either Output
- Remote On/Off Control
- 100 kHz Operation
- Six-Sided Shield

The WR Series DC/DC converters accept a wide input voltage range of 9 to 18 VDC, 18 to 36 VDC, or 36 to 72 VDC. A state of the art 100 kHz switching regulator produces operating efficiencies up to 86% at full load and as high as 80% at light load. Full power output of 15 or 30 watts may be taken from either output. All models will tolerate a short circuit between positive and negative outputs or between either output and common indefinitely. The WR Series provides output load regulation of 1% maximum with line regulation of  $\pm 0.2\%$  maximum and ripple and noise of only 10 mV RMS, 75 mV P-P maximum. All models are packaged in black coated copper cases with a non-conductive seating surface. This six-sided continuous shield provides EMI/RFI protection. Other pertinent specifications include: operating temperature range of  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$  with no derating, and 500 VDC minimum isolation.

**STOCKED BY YOUR LOCAL DISTRIBUTOR**  
See list on pages 175 & 176



### SPECIFICATIONS

All Specifications Typical at Nominal Line, Full Load and  $25^{\circ}\text{C}$  Unless Otherwise Noted.

#### OUTPUT SPECIFICATIONS

Voltage Accuracy, + output .....  $\pm 1.0\%$ , max.  
 Voltage Balance, - output .....  $\pm 2.0\%$ , max.  
 Ripple and Noise, 20 MHz BW .. 10 mV RMS, max.  
 75 mV P-P  
 Temperature Coefficient .....  $\pm 0.02\%/^{\circ}\text{C}$ , max.  
 Voltage Stability, 24 hrs .....  $\pm 0.05\%$ , max.  
 Transient Response,  $\pm 1\%$  Error Band  
 25% Step Load Change ..... 500  $\mu\text{sec.}$ , max.  
 Short Circuit Protection ..... Indefinite

#### INPUT SPECIFICATIONS

Input Voltage Range ..... See Table  
 Input Filter WR-U ..... Low ESR Capacitor  
 WR-XC ..... Pi Network  
 Reverse Voltage Protection .... Internal Shunt Diode  
 Use External Fuse

#### GENERAL SPECIFICATIONS

Efficiency ..... See Table  
 Isolation Voltage ..... 500 VDC, min.  
 Isolation Resistance .....  $10^9$  ohms, min.  
 Switching Frequency ..... 100 kHz  
 Case Grounding ..... Capacity Coupled to Input

#### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range ...  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$   
 Derating ..... None  
 Storage Temperature Range ...  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$   
 Cooling ..... Free-Air Convection

#### PHYSICAL SPECIFICATIONS

Weight, U Package ..... 16 oz. (454 grams)  
 XC Package ..... 12 oz. (340 grams)  
 Case Material ..... Black Coated Copper with  
 Non-Conductive Base  
 Mating Socket ..... MS-X

#### REMOTE ON/OFF CONTROL

Logic Compatibility ..... CMOS or Open Collector TTL  
 E<sub>c</sub>-ON ..... min. 5.5 VDC or Open Circuit  
 E<sub>c</sub>-OFF ..... max. 1.8 VDC  
 Module Shutdown Idle Current ..... 5 mA  
 Control Common ..... Referenced to Input Minus

**TWO-YEAR WARRANTY**



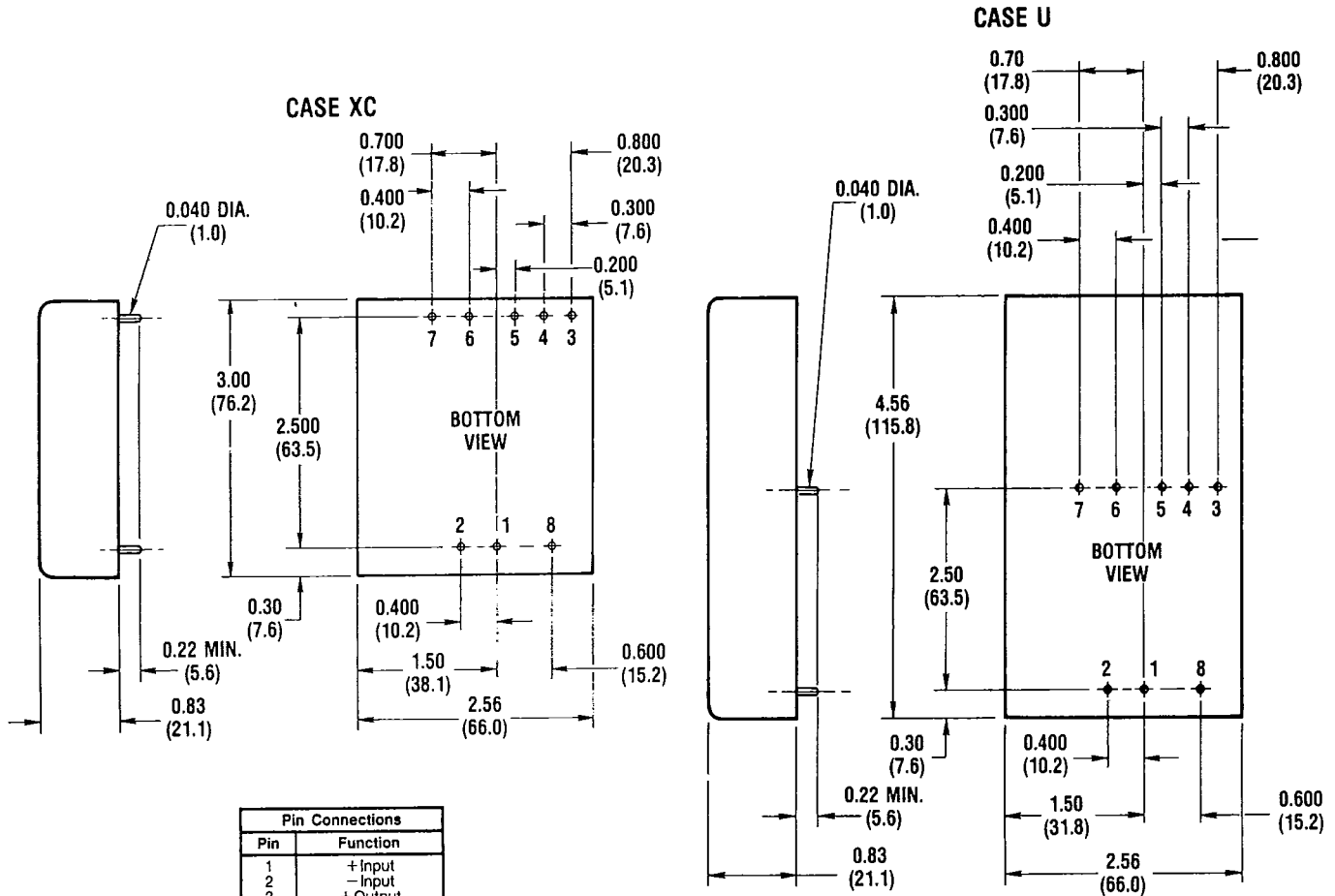
# 15 and 30 Watt DC/DC Converters

T-57-11

INPUT VOLTAGE RANGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT <sup>1</sup>		% EFF	REGULATION <sup>2</sup>		CASE	MODEL NUMBER
			NO LOAD	FULL LOAD		LINE <sup>3</sup>	LOAD <sup>4</sup>		
9-18 VDC	±12 VDC	± 625 mA	25 mA	1520 mA	82	±0.2%	±1%	XC	WR12D12/625XC
9-18 VDC	±15 VDC	± 500 mA	25 mA	1520 mA	82	±0.2%	±1%	XC	WR12D15/500XC
9-18 VDC	±12 VDC	±1250 mA	25 mA	3050 mA	82	±0.2%	±1%	U	WR12D12/1250U
9-18 VDC	±15 VDC	±1000 mA	25 mA	3050 mA	82	±0.2%	±1%	U	WR12D15/1000U
18-36 VDC	±12 VDC	± 625 mA	25 mA	750 mA	84	±0.2%	±1%	XC	WR24D12/625XC
18-36 VDC	±15 VDC	± 500 mA	25 mA	750 mA	84	±0.2%	±1%	XC	WR24D15/500XC
18-36 VDC	±12 VDC	±1250 mA	25 mA	1500 mA	84	±0.2%	±1%	U	WR24D12/1250U
18-36 VDC	±15 VDC	±1000 mA	25 mA	1500 mA	84	±0.2%	±1%	U	WR24D15/1000U
36-72 VDC	±12 VDC	± 625 mA	15 mA	365 mA	86	±0.2%	±1%	XC	WR48D12/625XC
36-72 VDC	±15 VDC	± 500 mA	15 mA	365 mA	86	±0.2%	±1%	XC	WR48D15/500XC
36-72 VDC	±12 VDC	±1250 mA	15 mA	730 mA	86	±0.2%	±1%	U	WR48D12/1250U
36-72 VDC	±15 VDC	±1000 mA	15 mA	730 mA	86	±0.2%	±1%	U	WR48D15/1000U

- NOTES: 1. Nominal Input Voltage 12, 24 or 48 VDC  
 2. Maximum.  
 3. Measured from High Line to Low Line.  
 4. Measured from Full Load to 1/4 Full Load.

Other Input/Output Combinations Available. Consult Factory.



Pin Connections	
Pin	Function
1	+Input
2	-Input
3	+Output
4	Common
5	-Output
6	No Pin
7	No Pin
8	Remote On/Off

Tolerance .xx = ±0.04  
 .xxx = ±0.005

ALL DIMENSIONS IN INCHES (mm)