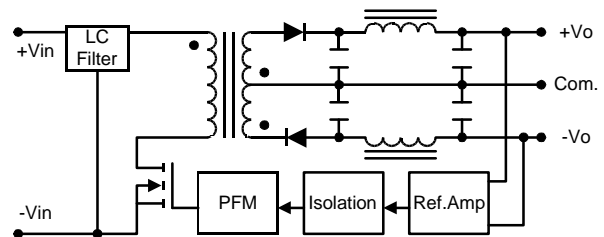
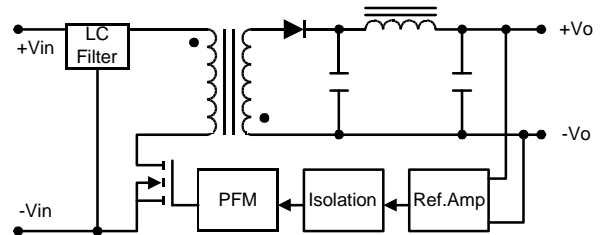


# TOTAL POWER INT'L

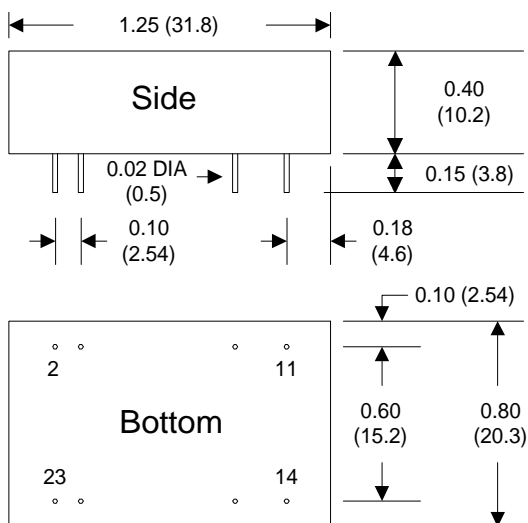
## MIW1000 Series 2 ~ 3 Watt Wide Input Range DC/DC Converters Single & Dual Output

### Key Features

- SMT Technology
- 2:1 Input Range
- High Efficiency up to 84 %
- I / O Isolation 1500VDC
- Short Circuit Protected
- MTBF > 1,000,000 Hours



### Mechanical Configuration



All dimensions typical in inches (mm). Tolerance= +/- 0.01 (+/- 0.25)

### Pin Connections

Pin	Single Output	Dual Output
2,3	-Input	-Input
9	No Pin	Common
11	NC	-Output
14	+Output	+Output
16	-Output	Common
22,23	+Input	+Input

NC: No Connection.

### Physical Characteristics

Case Size	31.8×20.3×10.2 mm 1.25×0.8×0.4 inches
Case Material	Non-Conductive Black Plastic
Weight	12g

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Email: [sales@total-power.com](mailto:sales@total-power.com) <http://www.total-power.com>

# TOTAL POWER INT'L

## MIW1000

### Absolute Maximum Ratings

Exceeding these values can damage the module. These are not continuous operating ratings.

Parameter		Min.	Max.	Unit.
Input Surge Voltage ( 1000 mS )	5VDC Input Models	-0.7	11	VDC
	12VDC Input Models	-0.7	25	VDC
	24VDC Input Models	-0.7	50	VDC
	48VDC Input Models	-0.7	100	VDC
Internal Power Dissipation		---	2500	mW

### Model Selection Guide

Model Number	Input voltage VDC	Output Voltage VDC	Output Current mA (Max.)	Output Current mA (Min.)	Input Current Max. Load mA (Typ.)	Input Current No Load mA (Typ.)	Reflected Ripple Current mA (Typ.)	Efficiency % (Typ.)
MIW1011	5 ( 4.5 ~ 9 )	3.3	600	60	566	40	100	70
MIW1012		5	500	50	685			73
MIW1013		12	250	25	779			77
MIW1014		15	200	20	779			77
MIW1015		±5	±250	±25	694			72
MIW1016		±12	±125	±12.5	800			75
MIW1017		±15	±100	±10	800			75
MIW1021	12 ( 9 ~ 18 )	3.3	600	60	223	20	30	74
MIW1022		5	500	50	267			78
MIW1023		12	250	25	305			82
MIW1024		15	200	20	305			82
MIW1025		±5	±250	±25	271			77
MIW1026		±12	±125	±12.5	313			80
MIW1027		±15	±100	±10	313			80
MIW1031	24 ( 18 ~ 36 )	3.3	600	60	109	5	15	76
MIW1032		5	500	50	132			79
MIW1033		12	250	25	149			84
MIW1034		15	200	20	149			84
MIW1035		±5	±250	±25	132			79
MIW1036		±12	±125	±12.5	152			82
MIW1037		±15	±100	±10	152			82
MIW1041	48 ( 36 ~ 72 )	3.3	600	60	55	3	10	76
MIW1042		5	500	50	66			79
MIW1043		12	250	25	75			84
MIW1044		15	200	20	75			84
MIW1045		±5	±250	±25	65			80
MIW1046		±12	±125	±12.5	75			84
MIW1047		±15	±100	±10	75			84

Specifications typical at Ta=+25] ,resistive load,nominal input voltage,rated output current unless otherwise noted.

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# TOTAL POWER INT'L

## MIW1000

### Environmental Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-25	---	+71	°C
Storage Temperature		-40	---	+125	°C
Humidity		---	---	95	%
Cooling	Free-Air Convection				

### Input Specifications

Parameter	Model	Min.	Typ.	Max.	Unit
Start Voltage	5V Input Models	3.5	4	4.5	VDC
	12V Input Models	4.5	7	9	
	24V Input Models	8	12	18	
	48V Input Models	16	24	36	
Under Voltage Shutdown	5V Input Models	---	3.5	4	
	12V Input Models	---	6.5	8.5	
	24V Input Models	---	11	17	
	48V Input Models	---	22	34	
Reverse Polarity Input Current	All Models	---	---	1	A
Short Circuit Input Power		---	1000	2000	mW
Input Filter		Pi Filter			

### Output Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		---	±0.5	±1.0	%
Output Voltage Balance	Dual Output Balance Load	---	±0.5	±1.0	%
Line Regulation	Vin=Min. to Max.	---	±0.2	±0.5	%
Load Regulation	Io=10% to 100%	---	±0.2	±0.5	%
Ripple & Noise (20MHz)		---	45	60	mV P-P
Ripple & Noise (20MHz)	Over Line, Load & Temp.	---	---	100	mV P-P
Ripple & Noise (20MHz)		---	---	15	mV rms.
Over Load		120	---	---	%
Transient Recovery Time	50% Load Step Change	---	300	500	µs
Transient Response Deviation		---	±3	±5	%
Temperature Coefficient		---	±0.01	±0.02	%/°C
Output Short Circuit	Continuous				

### General Specification

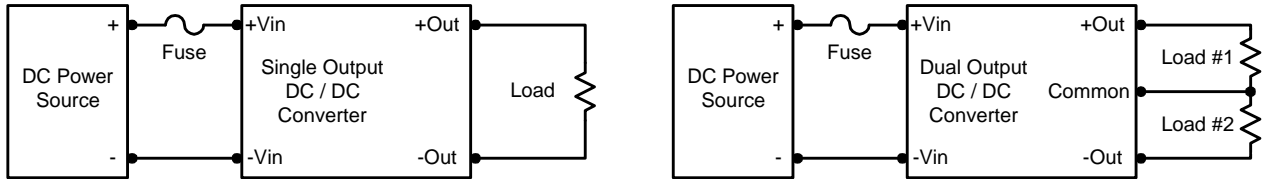
Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	60 Seconds	1500	---	---	VDC
Isolation Resistance	500VDC	1000	---	---	MΩ
Isolation Capacitance	100KHz, 1V	---	65	100	pF
Switching Frequency		---	300	---	KHz

# TOTAL POWER INT'L MIW1000

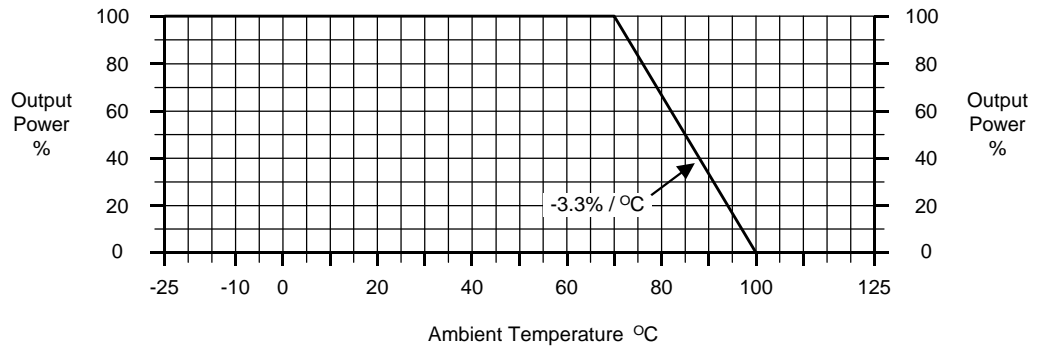
## Input Fuse Selection Guide

5V Input Models	12V Input Models	24V Input Models	48V Input Models
1500mA Slow – Blow Type	700mA Slow – Blow Type	350mA Slow – Blow Type	135mA Slow – Blow Type

## Typical Applications

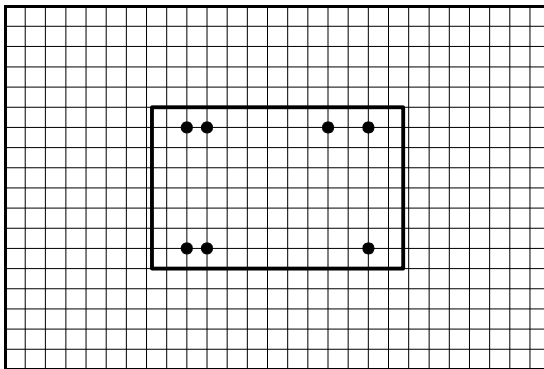


## Derating Curve

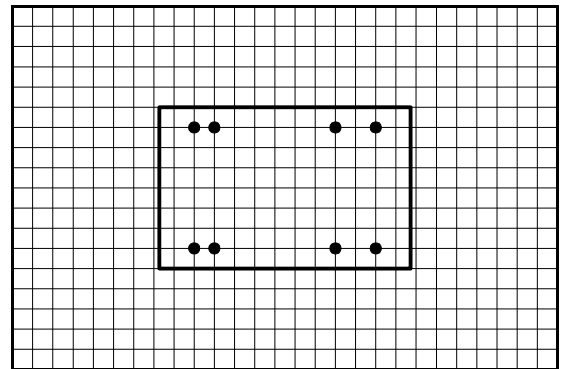


## Connecting Pin Patterns (2.54 mm / 0.1 inch grids)

### Single Output



### Dual Output



## NOTE:

1. Specifications typical at  $T_a = +25^\circ\text{C}$ , resistive load, nominal input voltage, rated output current unless otherwise noted.
2. Transient recovery time is measured to within 1% error band for a step change in output load of 50% to 100%.
3. When measure output ripple & noise, an external 0.1 $\mu\text{F}$  ceramic capacitor is recommended to be placed from +Vout to -Vout (single output) and each output to common (dual output).
4. Other input and output voltage may be available, Please contact factory.
5. Specifications subject to change without notice.