

F3000RW Series



Wide 2:1 Input, 30W Compact, Single Output DC/DC Converters

Key Features:

- 30W Output Power
- 2:1 Input Voltage Range
- 1,600 VDC Isolation
- High Efficiency
- Compact 2 x 1.6 In. Case
- Industry Standard Pin-Out
- Remote ON/OFF
- Low Output Voltages



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Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input						
Parameter	Conditions	Min.	Typ.	Max.	Units	
Input Voltage Range		36.0	48.0	75.0	VDC	
Input Filter	π (Pi) Filter					
Output						
Parameter	Conditions	Min.	Typ.	Max.	Units	
Output Voltage Accuracy			±2.0		%	
Line Regulation	For Vin Min to Max		±0.5		%	
Load Regulation	I _{out} = 10% to 100%		±1.0		%	
Ripple, See Note 1	1.8, 2.5, 3.3 VDC Output			50	mV P - P	
	All Other Outputs			±1.0	%	
Noise, See Note 1	1.8, 2.5, 3.3 VDC Output			100	mV P - P	
	All Other Outputs			±1.0	%	
Output Power Protection, See Note 2		120			%	
Over Voltage Protection, See Note 3		112		165	%	
Temperature Coefficient			±0.01	±0.02	%/°C	
Output Short Circuit	Continuous (Autorecovery)					

General

Parameter	Conditions	Min.	Typ.	Max.	Units	
Isolation Voltage	60 Seconds	1,600			VDC	
Isolation Resistance	500 VDC	1,000			MΩ	
Isolation Capacitance	100 kHz, 1V		1,000		pF	
Switching Frequency			400		kHz	

Remote On/Off, See Note 4

Parameter	Conditions	Min.	Typ.	Max.	Units	
Supply On	Open Circuit Or	5.0		15.0	VDC	
Supply Off		-1.0		+1.0	VDC	
Input Current (On)				-1	mA	
Input Current (Off)				1	mA	
Control Common	Referenced to Negative Input (pin 2)					

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units	
Operating Temperature Range	Ambient	-25		+70	°C	
Operating Temperature Range	Case			+100	°C	
Storage Temperature Range		-55		+105	°C	
Cooling	See Derating Curve					
Humidity	RH, Non-condensing			95	%	

Physical

Case Size	2.0 x 1.6 x 0.47 Inches (50.8 x 40.6 x 11.9 mm)					
Case Material	Nickel Coated Copper with Non-Conductive Base					
Weight	2.11 Oz (58g)					

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units	
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	550			kHours	

Absolute Maximum Ratings

Parameter	Conditions	Min.	Typ.	Max.	Units	
Input Voltage Surge (0.1 Sec)		-0.7		100.0	VDC	
Lead Temperature	1.5 mm From Case For 10 Sec			260	°C	

Caution: Exceeding Absolute Maximum Ratings may damage the module. These are not continuous operating ratings.

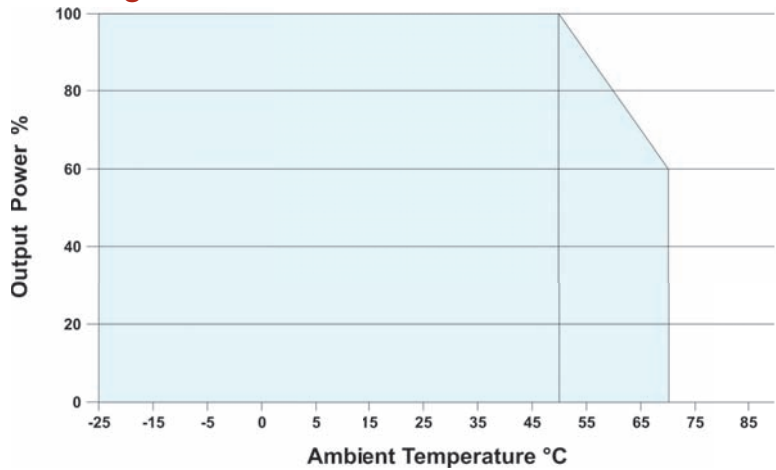
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Model Number	Input				Output			Maximum Output Power (W)	Efficiency (% Typ)	Fuse Rating Slow-Blow (mA)
	Voltage (VDC)		Current (mA)		Voltage (VDC)	Current (mA, Max)	Current (mA, Min)			
	Nominal	Range	Full-Load	No-Load						
F3021RW	48	36.0 - 75.0	271	110	1.8	6,000	600.0	10.8	83	750
F3022RW	48	36.0 - 75.0	376	110	2.5	6,000	600.0	15.0	83	750
F3023RW	48	36.0 - 75.0	497	110	3.3	6,000	600.0	19.8	83	1,000
F3024RW	48	36.0 - 75.0	718	110	5.0	6,000	600.0	30.0	87	1,500
F3025RW	48	36.0 - 75.0	753	30	12.0	2,500	250.0	30.0	83	1,500
F3026RW	48	36.0 - 75.0	753	30	15.0	2,000	200.0	30.0	83	1,500
F3027RW	48	36.0 - 75.0	753	30	24.0	1,250	125.0	30.0	83	1,500

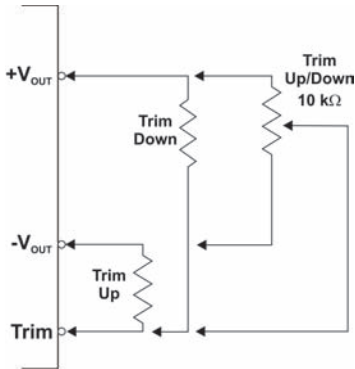
Notes:

- When measuring output ripple, it is recommended that an external 1.0 μF ceramic in parallel with a 10 μF capacitor be placed from the +Vout pin to the -Vout pin.
- The unit will recover automatically when the fault condition is removed.
- Over voltage protection is provided by a zener diode clamp.
- If the on/off pin (Pin 4) is left open, the unit operates.
- No load operation will not damage these units, but they may not meet all spec's.
- It is recommended that a fuse be used on the input of a power supply for protection. See the table above for the correct rating.

Derating Curves



External Trim

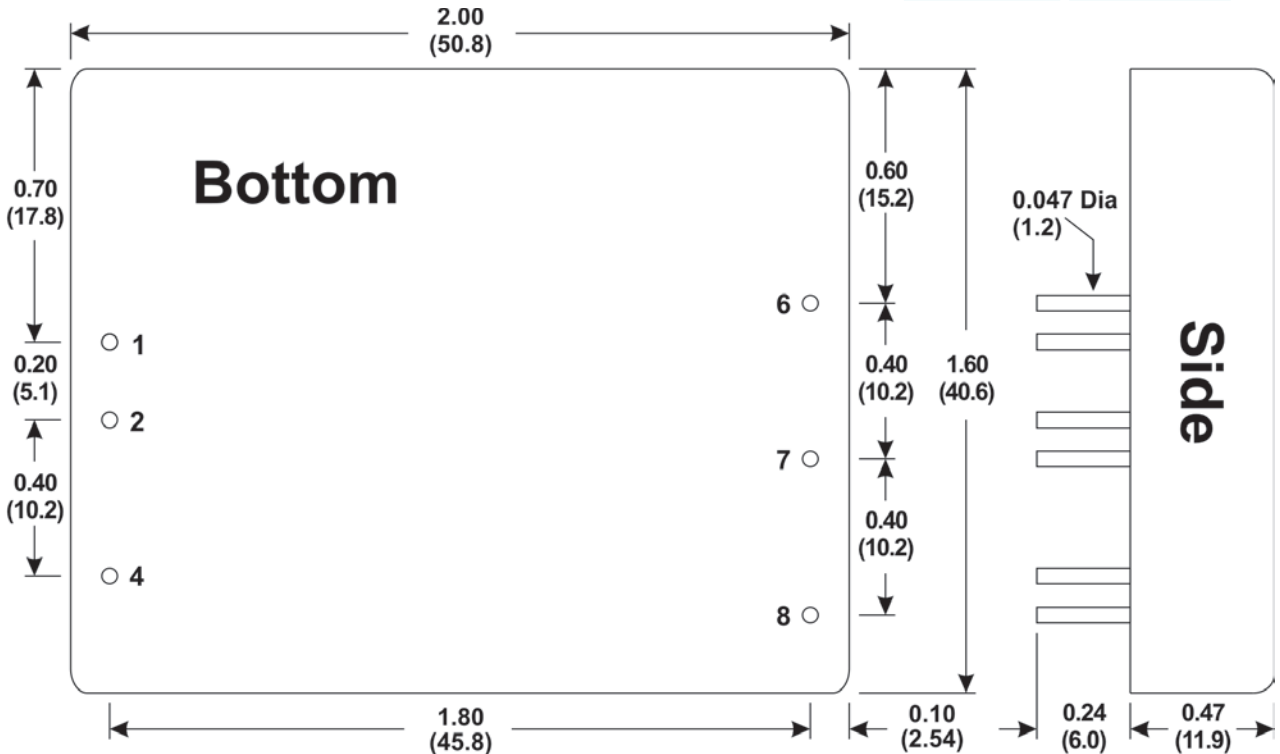


A simple external circuit may be used to adjust the converter output. The adjustment range is ±10%.
 To adjust the output DOWN, connect a 5%, 3W resistor between the plus output pin and the Vout trim pin.
 To adjust the output UP, connect a 5%, 3W resistor between the minus output pin and the Vout trim pin.
 For UP/Down trimming capability, connect a 10 kW potentiometer between the plus and minus outputs with the wiper arm connected to the Vout trim pin.

Pin Connections

Pin	Function	Pin	Function
1	+Vin	6	+Vout
2	-Vin	7	-Vout
4	ON/OFF	8	Trim

Mechanical Dimensions



Mechanical Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.01 (±0.25)



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