



1000FPW series

Single & Dual Output DC/DC Converter

DESCRIPTIONS

The 1000FPW series is a family of compact 10 W, high performance DC/DC converters. These converters are specifically designed to provide the flexibility, power density, and reliability required to fulfill local power needs in applications ranging from telecom switch systems to portable instrumentation. 24 models operate over 2:1 input ranges of 9 to 18, 18 to 36 or 36 to 72 VDC; providing single, dual or triple output combinations of 3.3, 5, 12, 15, 24, ± 5 , ± 12 and ± 15 VDC. All models are packaged in compact, low profile 2.0" X 1.0" X 0.4" metal cases.

OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Accuracy			± 1.0	% ¹
Voltage Balance:				
Dual Outputs			± 2.0	%; Equal Output Loads
Line Regulation			± 0.3	% ²
Load Regulation				
Single Outputs			± 0.5	% ³
Dual Outputs			± 0.5	% ³ ; Equal Loads
Ripple/Noise		100		mV Pk-Pk
Short Circuit Protection				Continuous, Automatic Recovery
Temperature Coefficient			± 0.02	% per °C
Minimum Load		10		% Full load

FEATURES

- 6 sided Continuous Shielding
- Wide 2:1 Input Voltage Range
- Efficiency to 83%
- >700,000 Hours MTBF

INPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Input Voltage Range				
12 VDC Input Models	9	12	18	VDC
24 VDC Input Models	18	24	36	VDC
48 VDC Input Models	36	48	72	VDC
Input Filter				Pi Filter

GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Switching Frequency		350		kHz
Isolation Voltage	1500			VDC, 1 minute
Isolation Resistance	1000			Mohm, 500VDC
MTBF (MIL-HBK-217F)	700			Thousand Hours, +25°C, Ground Benign

¹ = Output voltage at nominal line & FL

² = % Output voltage measured from min. input line to maximum

³ = Output voltage measured from FL to 10% Load

Martek Power reserves the right to change specifications without notice.



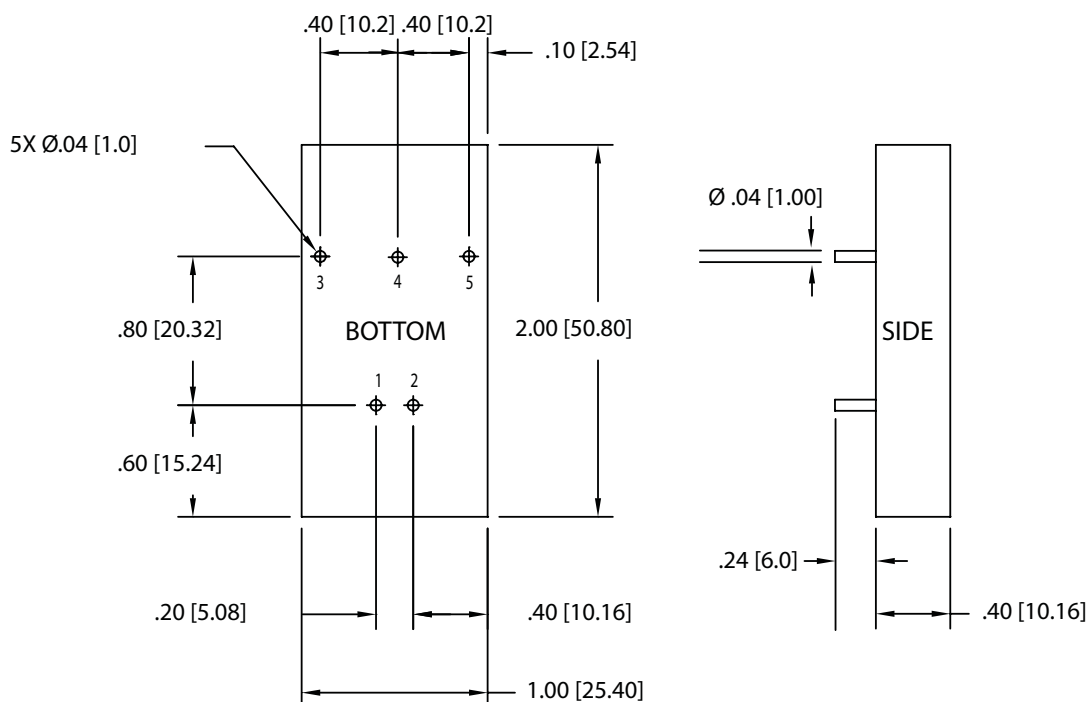
ENVIRONMENTAL SPECIFICATIONS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range	-25		+71	°C; Ambient
Storage Temp. Range	-40		+125	°C
Relative Humidity			95	% Humidity; non-condensing
Cooling				Free-Air Convection

PHYSICAL CHARACTERISTICS

	Unit/Comments
Case Size	2.0 X 1.0 X 0.4 inches (50.8 X 25.4 X 10.2 mm)
Case Material	Coated Metal with Non-Conductive Base
Flammability	UL94V-0
Weight	32 Grams

OUTLINE DRAWING



PIN OUT CHART

Pin	Single	Dual
1	+ Vin	+ Vin
2	- Vin	- Vin
3	+ Vout	+ Vout
4	No Pin	Common
5	-Vout	- Vout

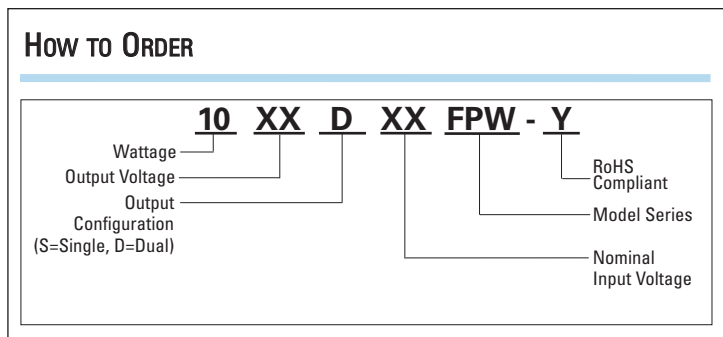
Notes:

- Unless otherwise specified dimensions are in inches (mm).
Tolerances
Inches mm
X.XX = ±0.02 X.X = ±0.5
X.XXX = ±0.010 X.XX = ±0.25
- Pin ±0.002 ±0.05

All specifications are typical at nominal input, nominal load and 25° C unless otherwise specified.
External, low ESR, 10 microfarad (minimum) capacitor across output is recommended for operation.



How To ORDER



MODEL SELECTION CHART

Model	Nominal Input Voltage (VDC)	Input Voltage Range (VDC)	No Load Input Current (mA)	Full Load Input Current (mA)	Output Voltage (VDC)	Full Load Output Current (mA)	Efficiency (%)
1003S12FPW	12	9 - 18	40	917	3.3	2400	72
1005S12FPW	12	9 - 18	40	1110	5	2000	75
1012S12FPW	12	9 - 18	40	1050	12	830	79
1015S12FPW	12	9 - 18	40	1050	15	670	79
1024S12FPW	12	9 - 18	40	1040	24	416	80
1003S24FPW	24	18 - 36	20	434	3.3	2400	76
1005S24FPW	24	18 - 36	20	534	5	2000	78
1012S24FPW	24	18 - 36	20	510	12	830	82
1015S24FPW	24	18 - 36	20	510	15	670	82
1024S24FPW	24	18 - 36	20	502	24	416	83
1003S48FPW	48	36 - 72	10	217	3.3	2400	76
1005S48FPW	48	36 - 72	10	260	5	2000	80
1012S48FPW	48	36 - 72	10	253	12	830	82
1015S48FPW	48	36 - 72	10	253	15	670	82
1024S48FPW	48	36 - 72	10	251	24	416	83
1005D12FPW	12	9 - 18	40	1068	±5	±1000	78
1012D12FPW	12	9 - 18	40	1040	±12	±416	80
1015D12FPW	12	9 - 18	40	1040	±15	±333	80
1005D24FPW	24	18 - 36	20	520	±5	±1000	80
1012D24FPW	24	18 - 36	20	507	±12	±416	82
1015D24FPW	24	18 - 36	20	507	±15	±333	82
1005D48FPW	48	36 - 72	10	257	±5	±1000	81
1012D48FPW	48	36 - 72	10	251	±12	±416	83
1015D48FPW	48	36 - 72	10	251	±15	±333	83



DERATING CURVES

MODEL 1000FPW

