

1000XFR series

NEW Approved for New Designs



www.martekpower.com

Single Output DC/DC Converter



DESCRIPTIONS

The 1000XFR series are low-profile dc-dc converters that operate over input voltage ranges of 18 - 36 VDC and 36 - 75 VDC and provide precisely regulated output voltages of 2.5V, 3.3V, 5V and 12V.

The -40°C to +60°C operating temperature range makes it ideal for data communication equipments, mobile battery driven equipment, distributed power systems, telecommunication equipment, mixed analog/digital subsystems, process/machine control equipment, computer peripheral systems and industrial robot systems.

OUTPUT CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Output Voltage Set Point		±1		% Output voltage at nominal line & FL
Total Band Error	-2		+2	% Output voltage including line/load regulation setting
Line Regulation		±0.3	±1	Change / Percentage change in Input voltage
Load Regulation		±1.5		% Output voltage measured from FL to 10% load (Balanced Loads)
Temperature Coefficient		±0.01	±0.02	% per degree C
Ripple/Noise		60	100	mV p-p measured at 20 MHz bandwidth with external 1 µf capacitor
Output Voltage and Current				Refer to model selection chart
Load Transient Response		±3	±5	% deviation of Vout voltage for a 25% load change for 500µs
Short Circuit Protection				Indefinite, Automatic Recovery

FEATURES

- Up to 87% Efficiency
- Single Output, 10 watt converter
- Available in 24 and 48 VDC Inputs 2 - 1 Input Range
- Industry Standard 1.25" X 0.8" X 0.4" Package
- Short Circuit Protection

INPUT CHARACTERISTICS

	Min	Typ	Max	Units/Comments
Input Voltage				
24 VDC Input Models	18	24	36	VDC
48 VDC Input Models	36	48	75	VDC
Under Voltage Shut Down				
24 VDC Input Models			17	VDC
48 VDC Input Models			34	VDC
Input Current at No Load				
24 VDC Input Models		20		mA
48 VDC Input Models		10		mA
Full Load Input Current				
24 VDC Input Models			0.50	A
48 VDC Input Models			0.26	A
Input Fuse Requirements				
24 VDC Input Models			1	Amps; Slow blow type
48 VDC Input Models			0.5	Amps; Slow blow type
Efficiency by Model				
1002V5S24XFR		83		%; FL Nominal Line
1003V3S24XFR		85		%; FL Nominal Line
1005S24XFR		87		%; FL Nominal Line
1012S24XFR		87		%; FL Nominal Line
1002V5S48XFR		83		%; FL Nominal Line
1003V3S48XFR		85		%; FL Nominal Line
1005S48XFR		87		%; FL Nominal Line
1012S48XFR		87		%; FL Nominal Line
Switching Frequency		400		kHz; Factory set
Input - Output Capacitance			1200	pF
Input Filter				Pi type
Isolation Voltage		1500		VDC
Isolation Resistance		1000		MOhms

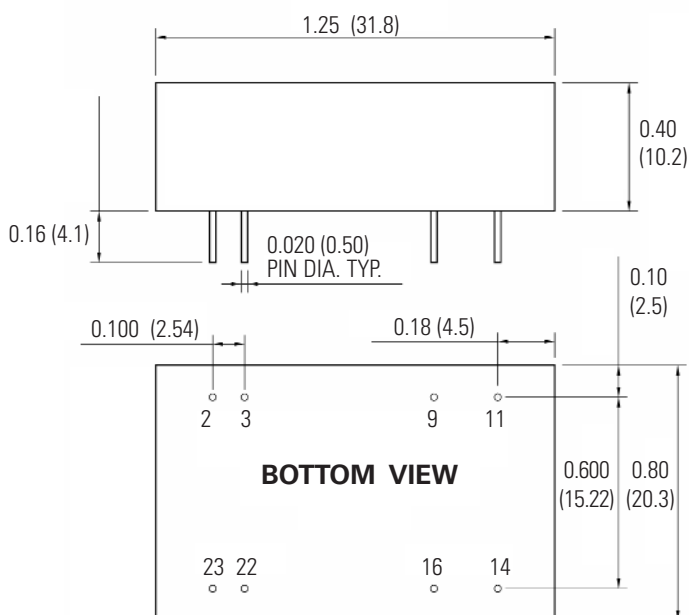
MODEL SELECTION CHART

	Input Voltage (VDC)	Output Voltage (VDC)	Full Load Output Current (A)
1002V5S24XFR	24	2.5	3.00
1003V3S24XFR	24	3.3	3.00
1005S24XFR	24	5.0	2.00
1012S24XFR	24	12.0	0.83
1002V5S48XFR	48	2.5	3.00
1003V3S48XFR	48	3.3	3.00
1005S48XFR	48	5.0	2.00
1012S48XFR	48	12.0	0.83

GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range	-40		+60	°C; measured at ambient
Operating Temp. Range	-40		+90	°C; measured at case
Storage Temp. Range	-40		+125	°C
Material Flammability				UL94V-0
Relative Humidity	5		95	% Humidity, non-condensing
Weight			17.3	Grams
Size				1.25" X 0.8" X 0.4"
Case Material				Metal with non-conductive baseplate
Agency Approvals				UL/CUL1950, TUV, EN60950

OUTLINE DRAWING



PIN OUT CHART

Pins	Single
2	- Vin
3	- Vin
9	NO PIN
11	NC
14	+ Vout
16	- Vout
22	+ Vin
23	+ Vin

NC = No Connection

Notes:

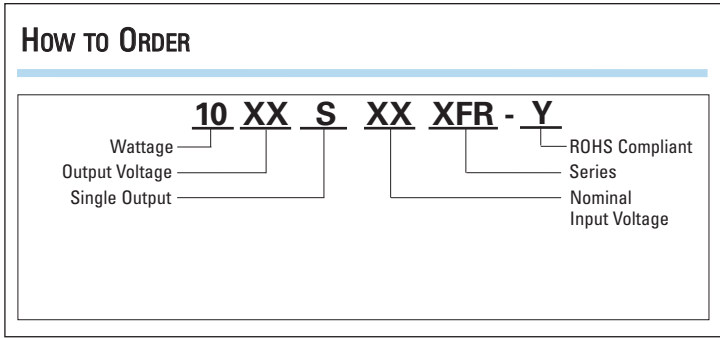
1. Unless otherwise specified dimensions are in inches (mm).

Tolerances: X.XX = ± 0.02 (± 0.5)

X.XXX = ± 0.010 (± 0.25)

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



DERATING CURVES

MODEL 1000XFR

