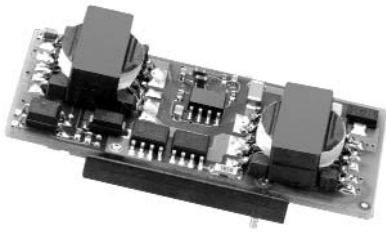


2000 SN series



www.martekpower.com

Single Output DC/DC Converter



DESCRIPTIONS

The 2000SN, single output power modules are 9 to 20 watt DC/DC converters featuring a 2 - 1 input range and available in a single output configuration providing 1.5 VDC to 5.0 VDC outputs in a compact, industry standard 1.0" X 2.0" X 0.375" package. These 400kHz, synchronized rectified, switching converters are available in 48 VDC inputs and achieve up to 90% efficiency. Advanced surface mount construction allows these converters to achieve outstanding thermal performance eliminating the need for thermal potting compounds and thereby enhancing manufacturing efficiency to reduce costs.

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		±0.5		% Output voltage measured from min. input line to max.
Load Regulation		±0.5		% Output voltage measured from FL to 10% load
Temperature Coefficient		±0.02		% per degree C
Ripple/Noise		75		mV p-p measured at 20 MHz bandwidth with ext. 1 µf cap.
Output Voltage and Current				Refer to model selection chart
Current Limit Set Point	110		140	% of FL output current
Turn On Time		10		mS from time load is applied
Load Transient Response		±4		% Deviation of Vout voltage for a 25% load change for 250µS
Short Circuit Protection				Indefinite, Automatic Recovery
Output Voltage Trim	-10		+10	% of nominal output voltage
Overvoltage Protection	3.9		6.2	Clamp type, non-latching. 5VDC output set at 6.2 VDC, all others set at 3.9VDC

FEATURES

- Up to 90% Efficiency
- Single Output, 20 watt converter
- 36-72 VDC Input
- Industry Standard 1.0" X 2.0" X 0.375" Package
- Remote On/Off, Output Voltage Trim, Output Over Voltage and Short Circuit Protection

INPUT CHARACTERISTICS

	Min	Typ	Max	Units/Comments
Input Voltage	36	48	75	VDC
Input Surge Limit	15		100	VDC for 100mS
Under Voltage Lock out				
Converter On			35.5	VDC
Converter Off	32.5			VDC
Minimum Input Current	0			mA
Full Load Input Current				
5 & 3.3 VDC Vo Model			0.63	A
2.5 VDC & Lower Output Model			0.36	A
Input Fuse Requirements			2	Amps; Slow blow type
Efficiency by Model				
2005S48SN	88	90		%; FL Nominal Line
2003V3S48SN	86	88		%; FL Nominal Line
2002V5S48SN	85	87		%; FL Nominal Line
2002V0S48SN	83	83		%; FL Nominal Line
2001V8S48SN	82	84		%; FL Nominal Line
2001V5S48SN	80	83		%; FL Nominal Line
Switching Frequency	360	400	440	kHz; Factory set
Remote Shut Down (Optional)				
Off	0		0.80	VDC; Referenced to input
On	3.5			VDC or open; Referenced to input
Input - Output Capacitance		1000		pF
Input Filter				LC type
Isolation Voltage		1500		VDC
Isolation Resistance	100			MOhms

Martek Power reserves the right to change specifications without notice.

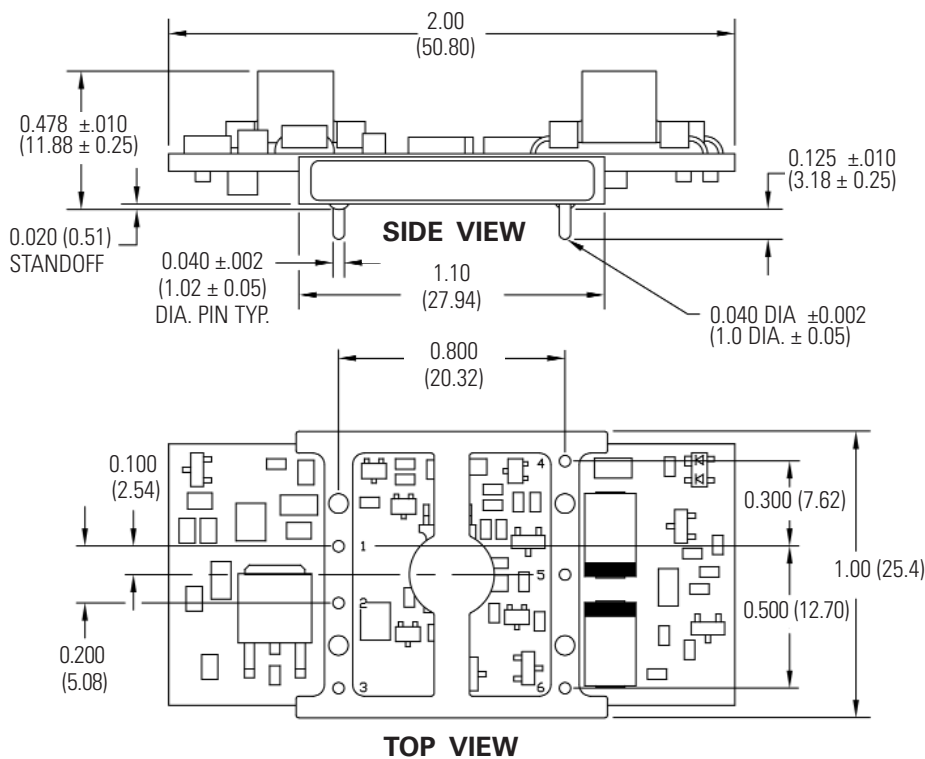
MODEL SELECTION CHART

	Input Voltage (VDC)	Output Voltage (VDC)	Full Load Output Current(A)	Output Power (W)
2005S48SN	48	5.0	4.00	20.0
2003V3S48SN	48	3.3	4.50	14.9
2002V5S48SN	48	2.5	4.50	11.3
2002V0S48SN	48	2.0	5.00	10.0
2001V8S48SN	48	1.8	5.50	9.9
2001V5S48SN	48	1.5	6.00	9.0

GENERAL CHARACTERISTICS

	Min	Typ	Max	Unit/Comments
Operating Temp. Range				See Derating Curves
Storage Temp. Range	-40		+105	°C; measured at baseplate
Material Flammability				UL94V-0
Altitude: Operating			10,000	Feet
Non-Operating			40,000	Feet
Relative Humidity	5		95	% Humidity, non-condensing
MTBF	580,000			Hours
Weight			13	Grams
Size				1.0"X2.0"X0.375"
Case Material				Open frame construction
Agency Approvals				UL/CUL1950, TUV, EN60950

OUTLINE DRAWING



PIN OUT CHART

Pins	FUNCTION
1	+ INPUT
2	- INPUT
3	*ON/OFF CONTROL
4	+ OUTPUT
5	*TRIM
6	- OUTPUT

* = Optional feature

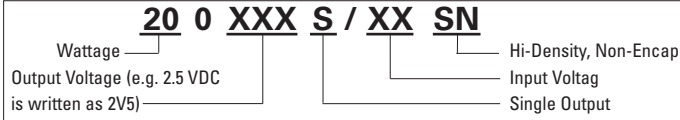
Notes:

- Pins 3 & 5 are only installed if an option is specified, no pin otherwise.
- 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 input is recommended for operation.

How To ORDER

HOW TO ORDER

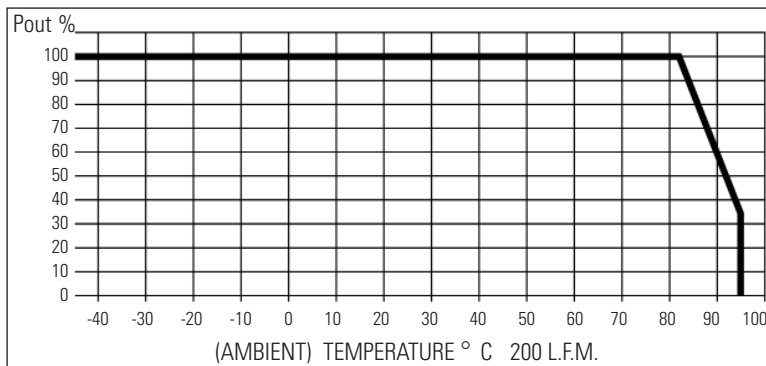
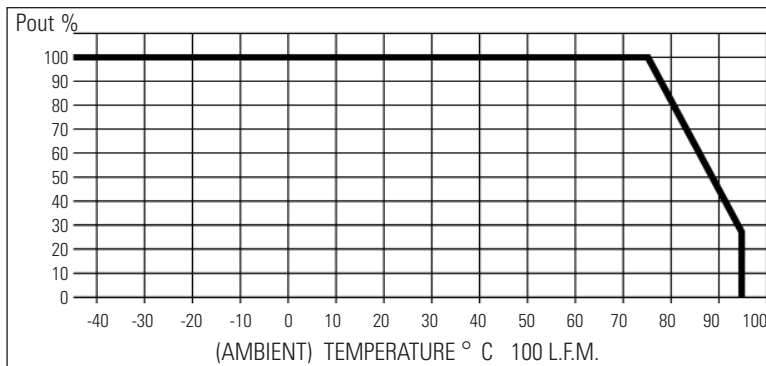
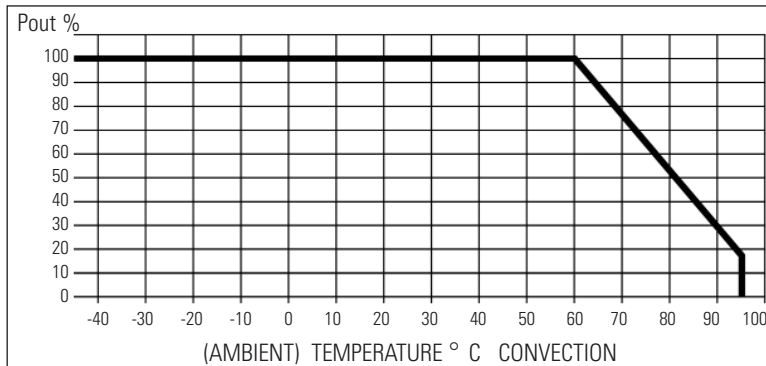


R Option: Additional pin to add the toggle remote on/off feature to the converter. To order please add a "-R" at the end of the part number (positive logic).

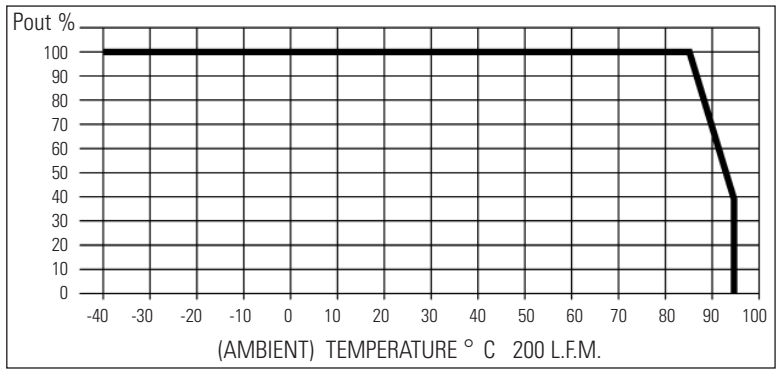
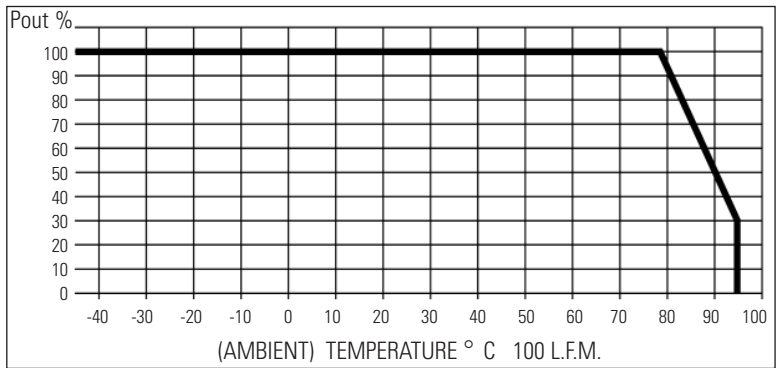
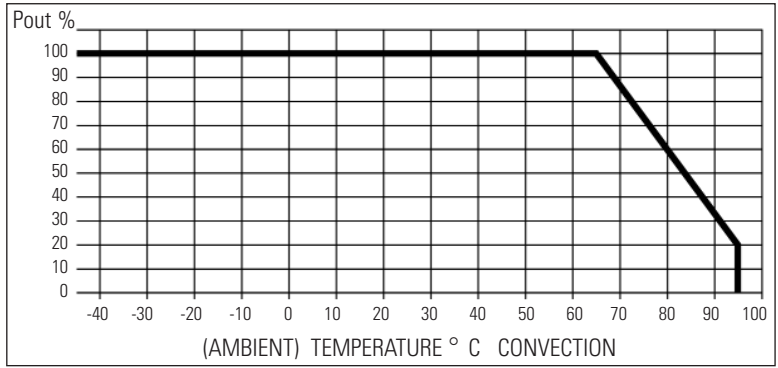
T Option: Output voltage trim feature allows output voltage to be adjusted +/-10% by use of additional, external resistor. To order please add a "-T" at the end of the part number (requires additional pin).

RT Option: To order both remote on/off and output voltage trim please add a "-RT" at the end of the part number (positive logic).

DERATING CURVES FOR 2005S48SN MODEL



DERATING CURVES FOR 2003V3S48SN MODEL



DERATING CURVES FOR 2002V5S48SN MODEL

