NL100

100 Watts Output Power

SINGLE AND DUAL OUTPUTS

How to Order:

NL 100 D I / 5 / 15 - A - D

- Series
- Total Output Power
- Single (S), Dual (D) Output
- Industrial (I) or Military (M)

Output Voltages: One number is for single output or two numbers for dual output. Maximum current as stated in selection chart.

Options:
A- pins out side of unit
B- pins out bottom of unit
C- pins out top of unit
D- through hole inserts (STD threaded)
I - M2.5 inserts

Model Numbering Example:

To order a 100 watt, 15 V out (single output), industrial grade power supply with pins out the side, the model number would be: NL100SI/15-A. Military grade would be NL100SM/15-A. To order a 100 watt, dual output, 15 V and 15 V, industrial grade power supply with pins out the top, the model number would be NL100DI/15/15-C. Dual output, 12 V and 15 V, military grade, would be NL100DM/12/15-C. When ordering a dual output unit, the first output voltage in the model number is located on channel 1, and the second output voltage in the model number is located on channel 2 (see case drawing for details).

INPUT CHARACTERISTICS

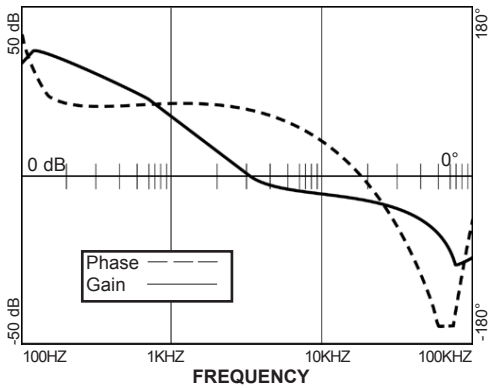
PER CHANNEL

	Min.	Typ.	Max.	Units
Input Voltage	9	12	18	Vdc
Brown Out (75% of Full Load) [fig. I]*		7		Vdc
No Load Power Dissipation		1	2	Watt
Inrush Charge [fig. VII]*			3.5	mc
Reflective Ripple Current [fig. VIII]*		3		%
Logic Disable Current (Sink)		100	150	µA
Logic Disable Power In		0.5	1	W
Input Ripple Rejection (120 Hz)		50		dB
Input Ripple Rejection (800 Hz)		40		dB
Efficiency (FL) [fig. II & III]*	72	78-85		%
3.3 Vdc Output (FL)	70	75		%
2 Vdc Output (FL)	63	69		%

EMI: Units conform to MIL-STD-461D (on the input leads) with companion filter

Input Transient: Units can withstand 24V transients for up to 0.1 second

STABILITY



FEATURES

- .38 Inch Profile
- Synchronization
- Remote Turn On (TTL)
- Output Voltage Trim Pin
- Over Temperature Protection
- Output Overvoltage/Overcurrent Protection
- Built-In Test (Output Power Good)
- 100% Environmental Screening (Military Version)
- Outputs Isolated Allowing Any Combination of Output Voltages

SELECTION CHART

Output Voltage and Output Current

Nominal Output Voltage	Single Output Current (Amps)	Dual Per Channel Current (Amps)
2	20	10
3.3	20	10
5	20	10
5.2	19.2	9.6
12	8.3	4.2
15	6.7	3.3

OUTPUT CHARACTERISTICS

PER CHANNEL

	Min.	Typ.	Max.	Units
Set Point Accuracy			1 †	% V_{out}
Load Regulation		10	30	mV
Line Regulation		5	25	mV
Ripple P-P (10 MHz) [fig. IV]*		50	150	mV
Trim Range	100		110	% V_{out}
Remote Sense Compensation		0.5		Vdc
Overvoltage Protection(2V, 3.3V)		140		% V_{out}
Overvoltage Protection (5V-15)		130		% V_{out}
Current Sharing		±10		% I_{out}
Transient Response (Vout 1%) Time/Overshoot [fig. V & VI]*				
20-80% Load		300/250		µS/mV
Low Line - High Line		250/200		µS/mV
50-100% Load		250/200		µS/mV
Temperature Drift		0.01	0.05	%/°C
Long Term Drift		0.01	0.02	%/1KHrs
Current Limit	105	125	150	% I_{out}
Short Circuit Current	20		75	% I_{out}
Turn On Time [fig. XI]*		3		mS
Logic Turn On Time [fig. IX]*		3		mS

† 1% or 50mV, whichever is greater
* figures on page 10 represents per channel

All specifications are typical @+25°C with nominal input voltage under full output load conditions, unless otherwise noted. Specifications subject to change without notice.

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TEMPERATURE CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating				
Industrial Grade	-40		+71	°C
Military Grade	-55		+100	°C
Storage (Ambient)	-55		+125	°C
Over Temperature Shutdown				
Industrial Grade		+75		°C
Military Grade		+105		°C
Thermal Resistance Case - Ambient		9		°C/W

ISOLATION CHARACTERISTICS

	Min.	Typ.	Units
Isolation:			
Input to Output	250		Vdc
Output to Base	100		Vdc
Input to Base	100		Vdc
Input to Output Capacitance		0.044	µf
Insulation Resistance (@50 Vdc)	50		MOhm

MILITARY GRADE - Environmental Screening

All "Mil" Grade units receive the following:

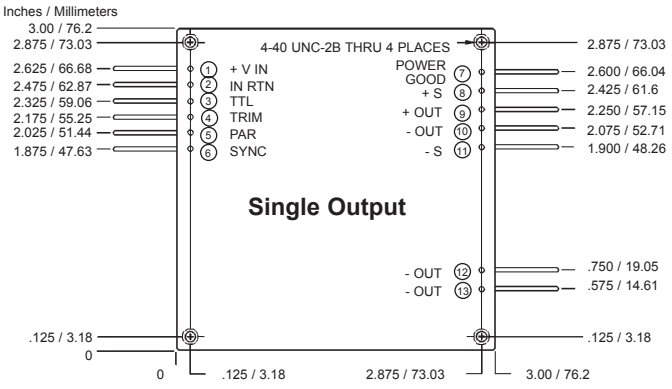
Stabilization Bake:	+125°C for 24 hours per Mil-Std-883, M1108, Condition B
Temperature Cycling:	10 cycles at -55°C to +125°C (transition period 36 minutes) per Mil-Std-883, M1010, Condition B
Burn-in:	160 hours at +85°C min.
Final Testing	

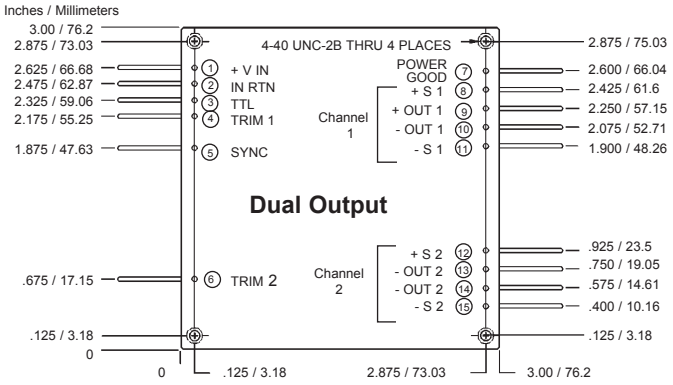
See "Guide to Operation" for full details

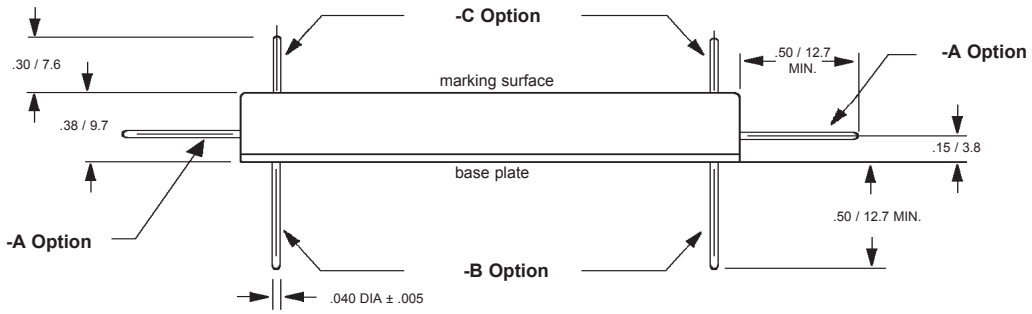
MECHANICAL CHARACTERISTICS

Weight	6.4	oz.
	180	grams
Size	3.0 x 3.0 x 0.38	inch
	76.2 x 76.2 x 9.7	mm
Volume	3.42	$inch^3$
	56.0	cm^3
Material	Pin	Brass (Solder Plating)
	Baseplate	Aluminum 5052-H32
	Case	28 Gauge Steel (cold rolled)
Finish		Nickel Plating
Mounting	Standard	4-40 inserts provided in baseplate
	I Option	M2.5 metric inserts (4 places)
	D Option	0.115 DIA thru holes (4 places)

CASE DRAWINGS







Tolerances: inches - x.xx = ±0.03 mm - x.x = ±0.8
x.xxx = ±0.015 x.xx = ±0.40

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