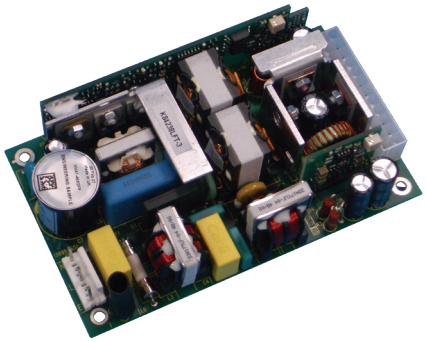
Industrial Test Broadcast Comms Renewable

100W Configurable ac-dc power supply.

Features	Benefits
• High Efficiency	Minimises heat in system
• Low Profile	Fits 1U Applications
• Single output connector	Simple and error free connection
• 4 outputs	Eliminates additional power supplies
• 3 Year Warranty	Low cost of ownership



Input

Input Voltage	90-264Vac	Input Frequency	45 - 63Hz (440Hz with reduced PFC - consult sales office)
Input Harmonics	EN61000-3-2 compliant	Inrush Current	<40A at 25°C and 264Vac (cold start)
Input Fuse	Time delay (not user accessible)		
Earth Leakage Current	123µA at 120Vac (60Hz), 257µA max at 240Vac (60Hz)		

Isolation

Input to Output	4.3kVdc		
Input to Earth	1.5kVac, 2.3kVdc	Output to Earth	200Vdc

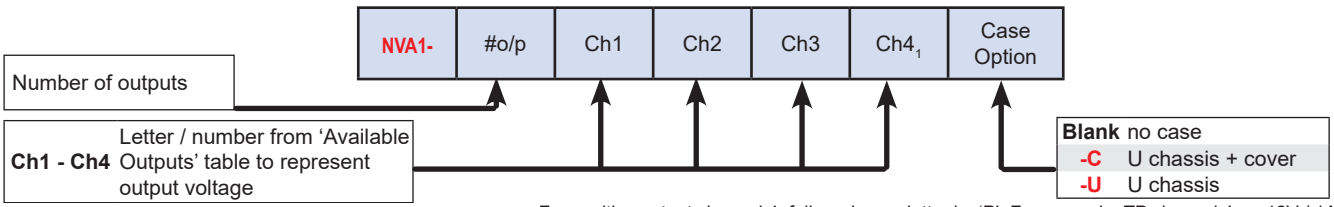
QUICK SELECTOR - example configurations

Additional variants available, see "How to Create a Product Description"

Model	Ch1	Ch2	Ch3	Ch4
NVA1-453TT	5V / 10A	3.3V / 8A	12V / 3A	-12V / 1A
NVA1-453FF	5V / 10A	3.3V / 8A	15V / 3A	-15V / 1A
NVA1-4G5TT	24V / 4A	5V / 5A	12V / 3A	-12V / 1A
NVA1-4G5FF	24V / 4A	5V / 5A	15V / 3A	-15V / 1A

How To Create A Product Description

Confirm availability of created product with TDK-Lambda



1. For positive output channel 4, follow chosen letter by 'P'. For example, TP channel 4 = +12V / 1A.

Available Outputs

Other output options are available, please contact sales office with your requirements

Channel 1	Adjustment Range	Channel 2	Adjustment Range	Channel 3	Adjustment Range	Channel 4[2]	Adjustment Range
5 5V / 10A[1]	4.75 - 5.25V	**3** 3.3V / 8A	3.14 - 3.46V	**T** 12V / 3A **F** 15V / 3A **G** 24V / 1.5A	Fixed Fixed Fixed	**T** -12V / 1A[3] **F** -15V / 1A[3]	Fixed Fixed
G 24V / 4A	23 - 25V	**5** 5V / 5A	3.3 - 5.5V	**T** 12V / 3A **F** 15V / 3A	Fixed Fixed	**T** -12V / 1A **F** -15V / 1A	Fixed Fixed

1. Total power of 5V ch1 + 3.3V ch2 must not exceed 60W 2. Follow characters in red by 'P' for positive output channel 4. 3. If channel 3 = 24V (G), channel 4 must be 'P'

Output Specification

Turn on time	1.5s max	at 90Vac and 100% rated output power
Efficiency	up to 90%	configuration dependent
Hold up	16ms min	at 90Vac
Ripple and Noise	<1%	(or 50mV if higher) pk-pk, using EIAJ test method & 20MHz bandwidth 1.5% on channel 4 for 5V channel 1 configs.
Voltage Accuracy	±1%	±5% for Channels 3 & 4 (with Ch1 set to nominal voltage)
Remote Sense	Yes	Channels 1 & 2. Max 0.5V total line drop
Minimum Load	No	on any output. (For models with 12V or 15V ch3, a load ≥1A is required on ch3 to keep it in full regulation when Ch1 + Ch2 power ≥50W)
Total Regulation	1%	Including Line (for 90-264Vac input change), Load (for 0-100% load change) and Cross (for 0-100% load change on any other output) regulation. (10% for channels 3 & 4)
Transient Response	<4%	of set voltage for 50% load change (in 50µs within the range 25-100% load)
Recovery	500µs	for recovery to 1% of set voltage
Over Voltage Protection	Yes	See Application Notes for details
Short Circuit Protection	Yes	
Over Temperature Protection	Yes	
Total Output Power	100W	
Ch1 Good Signal	Optional	Contact sales office for details

Environment

Temperature	0°C to 50°C operational, -40°C to 85°C storage (max 12 months). Full load, with 2m/s air blown from input to output (approximately 10CFM)
Convection Rating	50W at 50°C. Max 50% output current on any output. See Application Notes for details
Derating	50°C to 70°C derate each output by 2.5% per °C
Low Temp Startup	-20°C
Humidity	5 - 95% RH non condensing
Shock	±3 x 30g shocks in each plane, total 18 shocks 30g shock = 11ms (+/-0.5msec), half sine Conforms to EN60068-2-27, EN60068-2-47, IEC68-2-27, IEC68-2-47, JIS C0041-1987. Conforms to MIL-STD-810E/F, Method 516.5, Pro I, IV, VI
Vibration	Single axis 10 - 500 Hz at 2g (sweep and endurance at resonance) in all 3 planes Conforms to EN60068-2-6, IEC68-2-6 Conforms to MIL-STD-810E, Method 514.4, Pro I, Cat 1,9
Altitude	-200 to 3000 metres operational (-200 to 5000m storage/transportation)
Pollution	Degree 2, Material group IIIb

Immunity EN61000-6-2:2005

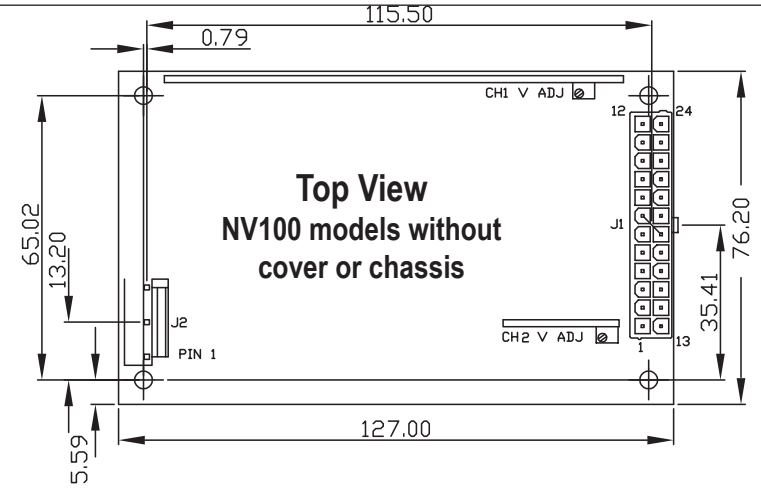
				Criteria
Electrostatic Discharge	EN61000-4-2	Level 4	Air discharge 15kV, Contact discharge 8kV. Not applicable to open frame units	A
Electromagnetic Field	EN61000-4-3	Level 3	12V/m	A
Fast / Burst Transient	EN61000-4-4	Level 3	ac input tested to 2.2kV dc output tested to 1.1kV	A
Surge Immunity	EN61000-4-5	Level 3	Common mode - 2.2kV, Differential - 1.1kV	A
Conducted RF Immunity	EN61000-4-6	Level 3	12V	A
Power Frequency Magnetic Field	EN61000-4-8	Level 4	30A/m	A
Voltage Dips, Variations, Interruptions	EN61000-4-11	Class 3	Criteria B for 5 sec interruption and dips to 40% for 5 cycles below 220Vac nominal input [criteria A if less than 60% load])	A

Emissions EN61000-6-3:2007

Radiated Electric Field	EN55011, EN55032	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B see application note for details.
Conducted Emissions	EN55011, EN55032	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B
Conducted Harmonics	EN61000-3-2	Class A
Flicker	EN61000-3-3	Compliant - d_{max} only

Safety Approvals	Notes
IEC/EN 60950-1, UL60950-1 / CSA 22.2 No 60950-1	File E135494
CE Mark (EN60950-1)	LV Directive 2006/95/EC
CB certificate and Report available on request	*Please check with technical sales for status of approvals*

Outline & Connection Drawings



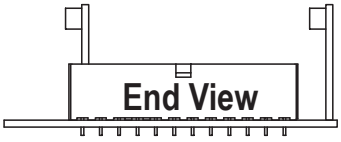
J2

PIN	FUNCTION
1	EARTH
2	NOT CONNECTED
3	LIVE
4	NOT CONNECTED
5	NEUTRAL

J1

Input and output connectors are not included with the product. They are available from TDK-Lambda

Part No	Contents
94910	1 off input connector and 3 crimps
94911	1 off output connector and 24 crimps

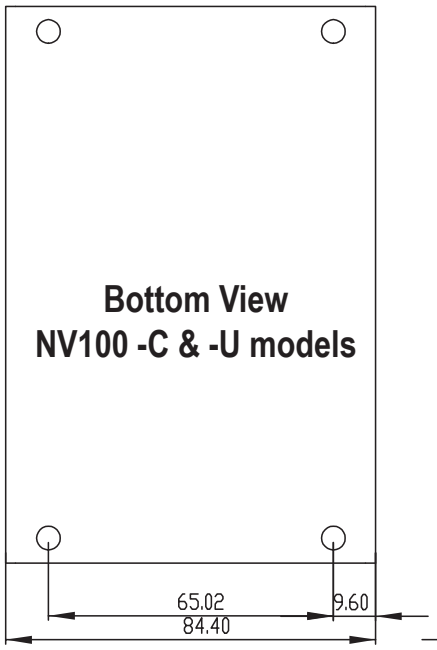


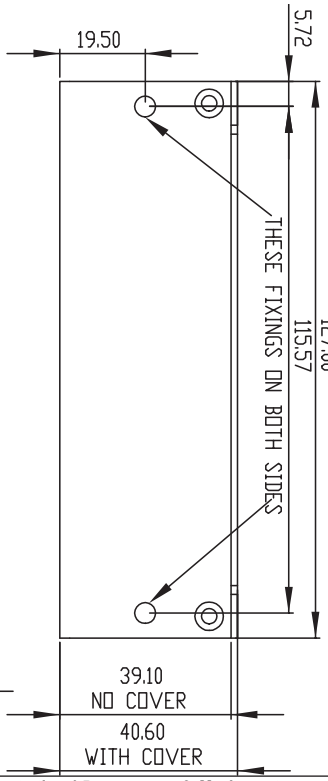
Output Connector J1			
Pin	Function	Pin	Function
12	Not connected	24	Not connected
11	Not connected	23	Not connected
10	Ch1 output	22	Ch1 good
9	Ch1 output	21	Ch1 output
8	Ch1 output	20	Ch1 output
7	+ Sense Ch1	19	- Sense Ch1
6	0V common	18	0V common
5	0V common	17	0V common
4	Ch2 output	16	0V common
3	Ch2 output	15	Ch2 output
2	+ Sense Ch2	14	- Sense Ch2
1	Ch3 output	13	Ch4 output

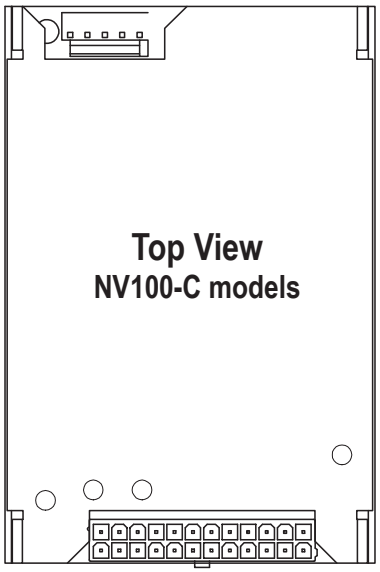
MATING PARTS (MOLEX OR EQUIVALENT)

CONN	HOUSING	PINS
J1	39-01-2205	45750-3112
J2	09-50-8051	08-52-0113

Weights (±80g)
open frame = 250g
'-U' = 350g
'-C' = 400g







Notes: 1. All customer fixings M3 2. Maximum thread penetration 4.5mm 3. Maximum torque 0.9Nm 4. All tolerances +/-0.5mm

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