

TDK-Lambda UK Limited
Kingsley Avenue, Ilfracombe
Devon, EX34 8ES, United Kingdom
Tel: +44 (0) 1271 856600
Fax: +44 (0) 1271 864894
www.emea.lambda.tdk.com/uk

EU DECLARATION OF CONFORMITY



NV350 Series

We, TDK Lambda UK Limited, of Kingsley Avenue, Ilfracombe, Devon, EX34 8ES declare under our sole responsibility that the TDK-Lambda power supplies, as detailed on the attached products covered sheets, comply with the provisions of the following European Directives and are eligible to bear the CE mark:

Low Voltage	Directive 2014/35/EU
EMC	Directive 2014/30/EU
RoHS	Directive 2011/65/EU (as amended by 2015/863)

Assurance of conformance of the described product with the provisions of the stated EC Directive is given through compliance to the following standards:

Electrical Safety (LVD)	EN 62368-1:2014/AC:2015
Electromagnetic Compatibility (EMC)	EN 61000-6-3:2007 + A1:2011 EN 61000-6-2:2005 EN 61204-3:2000 EN 55024:2010 EN 55032:2015
Restriction of Hazardous Substances (RoHS)	EN 63000:2018

Our representative in the EU is TDK-Lambda Germany GmbH, located at Karl-Bold-Str. 40, 77855 Achern, Germany.

Note: The EMC performance of a component power supply will be affected by the final installation, compliance to the stated EMC standards and conformance to the EMC Directive must be confirmed after installation by the final equipment manufacturer. For guidance with respect to test conditions please visit our website at https://emea.lambda.tdk.com/EMC_Guidance or contact your local TDK-Lambda sales office.

TDK-Lambda UK Limited
Kingsley Avenue, Ilfracombe
Devon, EX34 8ES, United Kingdom
Tel: +44 (0) 1271 856600
Fax: +44 (0) 1271 864894
www.emea.lambda.tdk.com/uk

UK DECLARATION OF CONFORMITY



NV350 Series

We, TDK Lambda UK Limited, of Kingsley Avenue, Ilfracombe, Devon, EX34 8ES declare under our sole responsibility that the TDK-Lambda power supplies, as detailed on the attached products covered sheets, comply with the provisions of the following European Directives and are eligible to bear the UKCA mark:

Electrical Equipment (Safety) Regulations 2016

Electromagnetic Compatibility Regulations 2016

Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment Regulations 2012

Assurance of conformance of the described product with the provisions of the stated UK Regulation is given through compliance to the following standards:

Electrical Safety	EN 62368-1:2014/AC:2015
Electromagnetic Compatibility (EMC)	EN 61000-6-3:2007 + A1:2011 EN 61000-6-2:2005 EN 61204-3:2000 EN 55024:2010 EN 55032:2015
Restriction of Hazardous Substances (RoHS)	EN 63000:2018

Note: The EMC performance of a component power supply will be affected by the final installation, compliance to the stated EMC standards and conformance to the EMC Regulation must be confirmed after installation by the final equipment manufacturer. For guidance with respect to test conditions please visit our website https://emea.lambda.tdk.com/EMC_Guidance or contact your local TDK-Lambda sales office.

NV350 Series Products Covered

Unit Nomenclature:

NV350 or NV3 or NV-350 (these models are identical)

(may be prefixed by NS - # / or - where # may be up to any four letters and may be followed by - \$; where \$ maybe any number between 000 to 999, indicating non-safety related model differences)

Unit Configuration Code (Description :) may be prefixed by SP followed by / or – (SP represents a sales code)

followed by: S, R, Q, P, V, C, T, U, K or L where:

Option Letter	Airflow Option
S	Forward airflow, standard fan
R	Reverse airflow, standard fan
Q	Forward airflow, quiet fan
P	Reverse airflow, quiet fan
V	Forward airflow, temperature controlled fan
C	Customer air, fan not fitted
T	Forward airflow, top fan
U	Customer air, fan not fitted, cover not fitted
K	Custom fan/chassis assembly
L	Fixed speed fan (see non-standards below)

followed by: S or I where:

Option Letter	Input Option
S	Screw input terminals
I	IEC input

followed by: S, M, L, R, or T, where:

Option Letter	Leakage Option
S	Standard Leakage (Class B Filter)
M	Medium Leakage
L	Low Leakage
R	Reduced Leakage
T	Tiny Leakage

Unit configuration may be given using the above code and/or by the option description. The input terminal type (screw or IEC) may alternatively be determined by examination of the unit.

optionally followed by: EN#V, EN12V, EN13.5V, IN#V, IN12V, IN13.5V, ES#V, ES12V, ES13.5V, IS#V, IS12V or IS13.5V. Where:

Description	Option Description
EN#V	AC good, global module good, PSU enable, 5-5.5V, 2A standby output
EN*V	AC good, global module good, PSU enable, 12-13.5V, 1A standby output
IN#V	AC good, global module good, PSU inhibit, 5-5.5V, 2A standby output
IN*V	AC good, global module good, PSU inhibit, 12-13.5V, 1A standby output
ES#V	AC good, PSU enable, 5-5.5V, 2A standby output
ES*V	AC good, PSU enable, 12-13.5V, 1A standby output
IS#V	AC good, PSU inhibit, 5-5.5V, 2A standby output
IS*V	AC good, PSU inhibit, 12-13.5V, 1A standby output

Where: # represents the standby output voltage and is in the range 5 to 5.5V.

Where * represents the standby output voltage and is in the range of 12-13.5V.

The Global Options Inhibit and Enable functions permit the customer to turn off or on the main PSUs outputs and the fan. The standby supply is for use by the customer and provides an ES1 output that continues to operate when all the main PSUs outputs have been turned off using the Inhibit or Enable functions. All the functions of the Global Option pass through a single 8 way PWB socket and are all rated ES1.

NV350 Modules:

Up to 3 of the following modules types may be fitted:

- @B
- or @BH
- or @C
- or @CM

where @ is the output voltage of the module and is within the range given in the single output module table.

- or @/#DB (/ can be replaced with a _)

where @ is the output voltage of channel 1 and # is the output voltage of channel 2 of the module. Voltages are within the range given in the DB module tables.

- or @/#DA (/ can be replaced with a _)

where @ is the output voltage of channel 1 and # is the output voltage of channel 2 of the module. Voltages are within the range given in the DA module tables. Only 1 DA module may be fitted.

- or B/S

where B/S indicates that a blanking plate is fitted in place of a module.

The following nomenclature may optionally be used for outputs connected in series:

@BB or @ BHB or @BBH or @BHBH or @CC or @CCM

where @ is the total voltage of any two B, BH, C or CM modules connected in series.

or @/#BDB or @/#BHDB (/ can be replaced with a _)

where @ is the total series voltage of any B or BH module and DB module channel 1. # is the output voltage of the DB module channel 2. Voltages for # are within the range given in the DB module tables.

or @HDB

where @ is the total series voltage of any DB module channel 1 and channel 2.

Note.

For all outputs connected in series:

Series modules are non-standard units.

Refer to the Handbook for Energy Source Classification of series modules.

Permissible min. value for @ is given by summing the min. voltage ratings of the outputs connected in series.

Permissible max. value for @ is given by summing the max. voltage ratings of the outputs connected in series.

Custom Models:

Model: NV350 LSS 24/24DB 15.5/5.5DB (K30045A)

Maximum outputs: 24V, 1A; 24V, 0.7A; 15.5V, 6.4A; 5.5V, 6.4A. (total power 175W max.)

Maximum ambient: 50°C

Orientations: Horizontal with chassis lowest, on either side.

Comments: PSU has fan drive voltage fixed at 5.5V.

Model: NV350 LSS 24/24DB (K30045B)

Maximum outputs: 24V, 7A; 24V, 0.7A. (total power 184.8W max.)

Maximum ambient: 50°C

Orientations: Horizontal with chassis lowest, on either side.

Comments: PSU has fan drive voltage fixed at 5.5V.

Model: NV350 TSS 24B 15BH 5/15DB (K30052X, where X can be any character)

Maximum outputs: 350W max.

Comments: PSU has top fan fitted.

Compliant with EN/IEC/UL/CSA 60950-1 & 62368-1 only

Model: NV350 KISES5V 12/12DB 5B (X00004#, where # can be any number of characters)

Maximum outputs: 350W max.

Comments: PSU has top fan, at an angle fitted. Output cables of 12 to 24 AWG, max 50 cm long are supplied with this model.

Compliant with EN/IEC/UL/CSA 60950-1 & 62368-1 only

Model: NV350 NV3LISIS5V 3.3B 12BH (K30068X, where X can be any character)

Maximum outputs: 201.4W max.

Comments: PSU has fixed, reduced speed fan set to 5.5V.

Compliant with EN/IEC/UL/CSA 60950-1 & 62368-1 only

ELECTRICAL & THERMAL RATINGS:

Input Parameters

Nominal input voltage (V)	100 - 240
Input voltage range (V)	85 - 264
Input frequency range (Hz)	47 – 440*
Maximum input current (A)	5.5
Inrush Current (A)	<15

*For frequencies above 60Hz, refer to Engineering Conditions of Acceptability.

For input voltages between 85 and 89.9V the output power is derated to 94% of the values given in the Cooling Options Table.

Output Modules:

Module	Output Voltage	Slots	Maximum Average Current According to Slot Position (A)				
			Slot 1	Slot 2	Slot 3	Slot 4	Slot 5
B	3.14-3.6V	2	40	-	40	40	40
	4.75-5.5V	2	40*	-	40*	40*	40*
	7-9V	2	2.5**	-	22.5**	22.5**	22.5**
	12-15.5V	2	16***	-	16***	16***	16***
	24-28V	2	8****	-	8****	8****	8****
BH	12-15.5V	2	20#	-	20#	20#	20#
	24-28V	2	10##	-	10##	10##	10##
C	12-13.2V	3	33.34†	-	33.34†	33.34†	-
	15-16.5V	3	26.67†	-	26.67†	26.67†	-
	24-26.4V	3	16.67†	-	16.67†	16.67†	-
	27-32V	3	14.82††	-	14.82††	14.82††	-
CM	12-13.2V	3	-	33.34†††	33.34†††	33.34†††	-
	15-16.5V	3	-	26.67†††	26.67†††	26.67†††	-
	24-26.4V	3	-	16.67†††	16.67†††	16.67†††	-
	27-32V	3	-	14.82†††	14.82†††	14.82†††	-

DA CH1	11.88-12.25V	1	-	-	-	-	3¥
	11.9 to -						
DA CH2	11.6V	1	-	-	-	-	1¥¥
DB	3.14-3.6V	2	25	-	25	25	25
CH1	4.75-5.5V	2	25	-	25	25	25
	5.5-6.5V++++	2	25	-	25	25	25
	12-15.5V	2	13¥¥¥	-	13¥¥¥	13¥¥¥	13¥¥¥
	24-28V	2	7¥¥¥¥	-	7¥¥¥¥	7¥¥¥¥	7¥¥¥¥
DB	3.3-6V‡	2	10	-	10	10	10
CH2	7-15.5V	2	5	-	5	5	5
	24-32V	2	2	-	2	2	2

* - Linearly derate from 40 to 36A over the voltage range 5.2 to 5.5 V.

** - Linearly derate from 22.5 to 20A over the voltage range 8 to 9V.

*** - Linearly derate from 16 to 13A over the voltage range 13.5 to 15.5 V.

**** - Linearly derate from 8 to 7A over the voltage range 26 to 28 V.

- Linearly derate from 20 to 16.5A over the voltage range 13.2 to 15.5 V.

- Linearly derate from 10 to 8.5A over the voltage range 25.7 to 28 V.

† - C & CM modules may output up to 600W for up to 10 seconds providing that the converter ratings are not exceeded and the average power from the module does not exceed the following: 400W for 115 - 264Vac input or 350W for 90Vac input (average power may be linearly interpolated between 90 and 115Vac input).

†† - Derate to 400W above 27V. C & CM modules may output up to 600W for up to 10 seconds providing that the converter ratings are not exceeded and the average power from the module does not exceed the following: 400W for 115 - 264Vac input or 350W for 90Vac input (average power may be linearly interpolated between 90 and 115Vac input).

††† - CM Module cannot be fitted to slot 1 due to medical spacing requirements.

†††† - See Table below

DB modules with 6V nominal, Output Channel1

Cooling options C, S, T & V O/P 1 : 5.5 - 6V O/P 1 + O/P 2 : 195W total.

O/P 1 : 6 - 6.5V O/P 1 + O/P 2 : Linearly derate from 195 to 170W total.

Cooling option Q O/P 1 : 5.5 - 6V O/P 1 + O/P 2 : 180W total.

O/P 1 : 6 - 6.5V O/P 1 + O/P 2 : Linearly derate from 180 to 140W total.

Cooling options P & R O/P 1 : 5.5 - 6.5V O/P 1 + O/P 2 : 120W total.

DB modules with 6V nominal channel 1 are not allowed when channel 2 exceeds 5.5V.

¥ - 3A forward air, 2A reverse air.

¥¥ - 1A forward air, 0.6A reverse air.

¥¥¥ - Linearly derate from 13 to 10A over the voltage range 12.5 to 15.5 V.

¥¥¥¥ - Linearly derate from 7 to 6A over the voltage range 25 to 28 V.

‡ - Voltage measured at the module power terminals. This voltage at the power terminals must not be exceeded when remote sense is used.

Cooling Options:

Cooling option	Input volts	continuous O/P power	peak power O/P (W)	Ambient(°C)	Derating(°C) †
(S, V ,T) Forward air standard fan	90-264(Vac) ‡	350W	400 peak if 350 average #	65	2.5% per°C above 50
(S, V) Forward air standard fan	115-264(Vac)	450W	510 peak if 450 average #	65	2.5% per °C above 50
(S, V ,T) Forward air standard fan	180-264(Vac)	664W	740 peak if 600 average #	65	2.5% per°C above 50
(R) Reverse air standard fan	90-264(Vac) ‡	250W	N/A	65	2.5% per°C above 50
(Q) Forward air quiet fan	90-264(Vac) ‡	350W	N/A	65	2.5% per°C above 50
(P) Reverse air quiet fan	90-264(Vac) ‡	250W	N/A	60	3.8% per°C above 50

C, U Cooling Option : Customer air, fan not fitted. Refer to Customer Air Cooling section in for details.

† Both the total output power and the module output currents are derated by the given value.

‡ For input voltages between 85 and 89.9V the output power is derated to 94% of the values given for 90V input.

The PSU may output the given peak power for up to 10 seconds providing that the average power from the PSU does not exceed the stated value.

- Continuous, peak and average power ratings may be linearly interpolated for input voltages between 90 and 180V.
- Global Option standby outputs (12-13.5V at 1A or 5-5.5V at 2A) should not be included when calculating total PSU output power, but they are subject to the current deratings for operation above 50°C.
- Global Options with output voltages between 5.01 and 5.5V have their max. output current linearly derated from 2A at 50°C ambient to 1.4A at 65°C ambient.
- For reverse airflow cooling all B, BH and DB modules are limited to a maximum output power of 150W (total for both channels on dual output modules).

NV350 PFC

ELECTRICAL & THERMAL RATINGS:

Input Parameters

Nominal input voltage (V)	100 - 240
Input voltage range (V)	85 - 264
Input frequency range (Hz)	47 – 440*
Maximum input current (A)	5.5
Inrush Current (A)	<15

*For frequencies above 60Hz, refer to Engineering Conditions of Acceptability.

For input voltages between 85 and 89.9V the output power is derated to 94% of the values given in the Cooling Options Table.

Output Parameters

Max Output Power is 350W up to 50°C. Above 50°C, derate by 2.5%/°C.

Output Voltage - 375V +/- 20V

Fan Output - 12V nom at 0.25A max

NV350 Series Signature Page

Name of Authorized Signatory	Christopher Haas
Signature of Authorized Signatory	
Position of Authorized Signatory	Head of Quality & Compliance Europe
Date	23 September 2021
Date when this CE declaration first issued	2 January 1997
Date when this UKCA declaration first issued	6 April 2021
Place where signed	Achern, Germany

This declaration is signed for and on behalf of TDK-Lambda