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EU DECLARATION OF CONFORMITY

Flexi Sirius 250 / CSF250 Series

We, TDK-Lambda UK Limited, of Kingsley Avenue, Ilfracombe, Devon, EX34 8ES declare under our sole responsibility that the TDK-Lambda Flexi Sirius 250 / CSF250 series of power supplies, as detailed on the attached products covered sheets, complies with the provisions of the following European Directives and is eligible to bear the CE mark:

Low Voltage	Directive 2014/35/EU (20 April 2016)
RoHS 2	Directive 2011/65/EU (8 June 2011)

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)	EN60950-1:2006 + A2:2013

Name of Authorized Signatory	Martin Southam
Signature of Authorized Signatory	
Position of Authorized Signatory	Marketing Director, TDK-Lambda EMEA
Date	20 April 2016
Date when first CE marked	19th July 1999
Place where signed	Ilfracombe, Devon, England

PRODUCTS COVERED SHEETS FOR THE FLEXI SIRIUS 250 / CSF250 SERIES.

Model numbering nomenclature:

Sirius F250abcde or CSF250abcde series

Where abcde defines the model configuration:

(May be prefixed by NS - # / where # may be any number of characters indicating non safety related model differences). Products may additionally be marked with H7x or J7x where x can be any number of characters indicating non-safety related model differences.

a= EI for End fans with switched IEC input connector or EIF for End fans with double pole fused IEC input connector or EIR for Reverse air end fans, with switched IEC input connector or EIFR for Reverse air end fans, with double pole fused IEC input connector or EM for End fans with 3 pin header (Molex type) input connector or TM for Top fan with 3 pin header (Molex type) input connector or SIF for single end fan with double pole fused IEC input connector or SM for single end fan with 3 pin (Molex type) input connector or SI for single end fan with IEC input connector or NM for External forced air cooling (open ended cover fitted) with 3 pin header (Molex type) input connector or LM for Open frame and external forced air cooling with 3 pin header (Molex type) input connector. Maybe followed by:-

b=ML for Medium Leakage or LL for Low Leakage or RL for Reduced Leakage or TL for Tiny Leakage or Nothing for standard Class B filter

c=†/† for applicable base board dual output voltage.

d=may be followed by up to two of the following: @ followed by A, B, C, L or N or @/@ followed by D, E, F, G, H, J or M where @ = applicable single output module voltage @/@ = applicable dual output module voltage letter = output module fitted

e=may be followed by: B/S where B/S = blanking plate.

Permissible output voltage values

Dual output base board	Output Voltage
†/†	1.8-3.8 / 4.5-6.0
†/†	1.8-3.8 / 9-13
†/†	4.5-7.5 / 9-13
†/†	4.5-7.5 / 18-25
Single A module	Output Voltage
@	4.5-6.0
Single B module	Output Voltage
@	9-16
Single C module	Output Voltage
@	17-30
Single L module	Output Voltage
@	1.8-3.8
Single N module	Output Voltage
@	9-15.5
Dual D module	Output Voltage
@/@	4.5-6.0 / 2.7-4.0
Dual E module	Output Voltage
@/@	4.5-6.0 / 9-16
Dual F module	Output Voltage
@/@	4.5-6.0 / 17-30
Dual G module	Output Voltage
@/@	9-16 / 9-16
Dual H module	Output Voltage
@/@	9-16 / 17-30
Dual J module	Output Voltage
@/@	17-30 / 17-30
Dual M module	Output Voltage
@/@	4.5-6.0 / 4.5-6.0

Input Parameters

Standard	AC
Nominal input voltage	94.5 - 240Vac
Input voltage range	85 - 264Vac
Input frequency range	47 - 63Hz
Maximum input current	5A rms
Inrush current	<50A

All ratings apply for ambient temperatures up to 50°C.

Ampere Turns: 90 maximum [Ampere turns is the sum of (output amps x secondary turns) for all outputs].

Output Parameters - Base Board Outputs:

Output Model	(V)	(A)	Sec Turns	S/C (A) *
CSF250 3/5	1.8-3.8 / 4.5-6.0	30 / 20	1 / 2	90 / 45
CSF250 3/12	1.8-3.8 / 9-13	30 / 10	1 / 3	20 / 30
CSF250 5/12	4.5-7.5 / 9-13	25 / 10	2 / 3	45 / 30
CSF250 5/24	4.5-7.5 / 18-25	25 / 6	2 / 6	45 / 15

Module Outputs:

Output Module	(V) **	(A)	Sec Turns	S/C (A) *
A	4.5-6.0	10	2	45
B	9-16	8	4	23
C	17-30	4	7	13
D	4.5-6.0 / 2.7-4.0	5/5	2 / 2	45 / 45
E	4.5-6.0 / 9-16	5/4	2 / 4	45 / 23
F	4.5-6.0 / 17-30	5/2	2 / 7	45 / 13
G	9-16 / 9-16	4.5/4.5 ***	4 / 4	23 / 23
H	9-16 / 17-30	4/2	4 / 7	23 / 13
J	17-30 / 17-30	2/2	7 / 7	13 / 13
L	1.8-3.8	14	2	90
M	4.5-6.0 / 4.5-6.0	5/5	2 / 2	45 / 45
N	9-15.5	8	4	23

* = Maximum current if output is short circuited, within 1 minute current limit changes to hiccup mode to give a lower average current.
** = These voltages are at the output power terminals and must be reduced by a line drop when remote sense is used.
*** = For PSU's with a single end fan rating is 4/4A

Output Limitations

The Sirius F250 series is designed to provide a max output power of 250W at nominal output voltages. The following procedure must be used to ensure the PSU is operated within its ratings:
a Calculate user power for each module (volts x amps).
b Add all the individual module powers together. The total power must not exceed the value given in the following tables.
c Calculate secondary transformer turns x amps for each module. (See outputs table for transformer secondary turns).
d Add all the module turns x amps together and this must not exceed 90AT.
e If necessary reduce the loading until the conditions are met, i.e. power and ampere-turns maxima.

Custom Models:

Specific configurations with different operating parameters to the rest of the range are permitted. These are as follows:

a)
CSF 250 SM 3.3/5 15B 15/24H

Loading conditions:		
	Output 1:	3.3V@18A
	Output 2:	5V@13A
	Output 3:	15V@2A
	Output 4:	15V@0.5A
	Output 5:	24V@0.25A

This unit, with these maximum loading conditions, can operate with a maximum ambient of 60°C horizontally.

b)
CSF 250 NM 6.5/12 5/3.3D 12/26H

Loading conditions:		
	Output 1:	6.5V@1.2A
	Output 2:	12V@4A
	Output 3:	5V@3.6A
	Output 4:	3.3V@1.5A
	Output 5:	12V@0.2A
	Output 6:	26V@0.5A

There is no internal fan in this unit, cooling is provided externally. Airflow is to be supplied at a minimum of 1.5m/s at the input end of the unit, drawing air from the output end towards the input end. This unit, with these maximum loading conditions, can operate with a maximum ambient of 60°C horizontally.

c)
CSF 250 TM 5.2/24 12/12G 15/15G

Loading conditions:		
	Output 1:	5.2V@9.04A
	Output 2:	24V@4.38A
	Output 3:	12V@2.5A
	Output 4:	12V@0.5A
	Output 5:	15V@4.8A
	Output 6:	15V@1A

This unit used a Papst 8412 NMLE fan and the above maximum loading conditions can be used in all orientations except fan facing down with a minimum input voltage of 90Vac.

d)
CSF 250 SM 3.3/5 15B 15/24H (Product Code H70009)

Loading conditions:		
	Output 1:	3.3V@30A
	Output 2:	5V@25A
	Output 3:	15V@8A
	Output 4:	15V@4A
	Output 5:	24V@2A

The maximum output power of this unit is 250W. Horizontal orientation only, maximum ambient 50°C.

e)
CSF 250 NMLL 6.5/12 5/3.3D 12/26H

Loading conditions:		
	Output 1:	6.5V@4.2A
	Output 2:	12V@4.5A
	Output 3:	5V@0.55A
	Output 4:	3.3V@1.5A
	Output 5:	12V@0.7A
	Output 6:	26V@0.08A

There is no internal fan in this PSU, cooling is provided externally. Airflow is to be supplied at output end of the unit and to be drawn through the PSU towards the input end. Horizontal orientation only, maximum ambient 60°C.

Customer must monitor temperatures within the PSU and provide sufficient airflow to ensure that temperatures do not exceed the limits given in the "Temperature Limitation Method" shown in the handbook.

f)
CSF 250 NMML 6.5/12 5/3.3D 12/26H

Loading conditions:	Output 1:	6.5V@4.2A
	Output 2:	12V@4.5A
	Output 3:	5V@0.55A
	Output 4:	3.4V@1.5A
	Output 5:	12V@0.7A
	Output 6:	26V@0.08A

There is no internal fan in this PSU, cooling is provided externally. Airflow is to be supplied at output end of the unit and to be drawn through the PSU towards the input end. Horizontal orientation only, maximum ambient 60°C. Customer must monitor temperatures within the PSU and provide sufficient airflow to ensure that temperatures do not exceed the limits given in the "Temperature Limitation Method" shown in the handbook