

Proprietary Information of:  bel POWER SOLUTIONS & PROTECTION a bel group	Title: EN 50155 Declaration of Conformity	Document No. URR.20098	Rev. B
---	---	----------------------------------	------------------

Declaration of Conformity

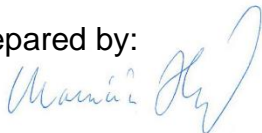
We, Bel Fuse Inc., hereby declare under our sole responsibility that the products herein after referred to are in compliance with the **EN 50155:2021**.

Manufacturer/Address: **Bel Fuse Inc.**
206 Van Vorst Street, Jersey City, New Jersey,
USA 07302

Product: **100-280W Watt DC-DC and AC-DC Converters**

Type Designation: **K/S Series per datasheet part number description**
 (Refer to part numbers description below)

Standard(s): **EN 50155:2021**
EN 50124-1:2017
EN 50125-1:2014
EN 50121-3-2:2016
EN 50121-4:2016
EN 60529:1991
EN 61373:2010
EN 45545-2:2020
 (Refer to Table 2 listing achieved compliance)

Prepared by: 

Dubnica nad Váhom, Slovakia **05/12/2022**
Marian Hostačný, *(Place)* *(Date)*
Engineering Manager

Approved by: 

Uster, Switzerland **05/12/2022**
Silvan Mueller, *(Place)* *(Date)*
Business Development Manager

Table 2: Compliance status

Subclause	Title	Default requirement	Product compliance
4.4.1	Altitude	Class A1 (1400 meters) Table 1 of EN 50125-1	Fulfilled (2000 m)
4.4.2	Operating temperature	Table1: Class OT3 (-25 to +71 degC)	(OT4) fulfilled for version -9 (OT3) fulfilled for version -7
4.4.3	Switch-on extended op. temp.	Table2: Class ST1 (Test cycle B)	Fulfilled (ST1)
4.4.4	Rapid temperature variation	Table3: Class H1 (No requirements),	Fulfilled (H1)
4.4.5	Shock and Vibration	Category 1; Class B of EN 61373:2010	Fulfilled
4.4.6	Electromagnetic compatibility	In compliance with EN 50121-3-2:2016	Fulfilled
4.4.7	Relative humidity	In compliance with EN 50125-1:2014	Fulfilled
4.5.2	Atmospheric pollutants	No requirements apply by default	Fulfilled (Salt Mist per EN 50155:2021, clause 13.4.13)
5.2.2	The nominal voltage of equipment (Un)	Either of following values: 24 V, 28 V, 36 V, 48 V, 72 V, 96 V, 110, 120 V	Fulfilled (24V, 36V, 48V, 72V, 96, 110, 120V)
5.2.2	Continuous DC power supply range	Table4: 0.7 x Un – 1.25 x Un	Fulfilled (16.8V – 150V)
5.2.3	Temporary DC power supply fluctuation	Table4: 0.6 x Un – 1.4 x Un (for 100msec)	Fulfilled (12.0V – 168V)
5.2.4	Interruption of voltage supply	Table5: Class S2 (10 msec)	Fulfilled (S2)
5.2.5	Supply Change-Over	Table6: Class C1	Fulfilled (C1)
5.2.7	DC ripple factor	Ripple factor of +/- 5%	Fulfilled (+/-5%)
6.2	Useful life	Class L4	Fulfilled (L4)
6.3.2	Preventive maintenance	No periodic maintenance applies	Fulfilled (No maintenance required)
7.2.1	Insulation Coordination	Pollution degree PD2 of EN 50124-1:2017	Fulfilled (PD2)
		Table 13 (13.4.7): Insulation & withstand test voltages shall be applied	Fulfilled
10.2.1	Electronic assembly acceptability	Class 2 according to IPC-A-610	Fulfilled (Class 2)
10.2.5	IC Sockets and Edge connectors	Class K2 (not allowed)	Fulfilled (K2)
10.7	Protective coatings for PCB's	Class PC2	Fulfilled (PC2)
10.9	Mounting	Enclosure shall provide the necessary protection (IP code acc to EN60529:1991)	Fulfilled (IP30) – Note 1
10.10	Cooling and ventilation	Forced ventilation for cooling is not allowed	Fulfilled (No forced cooling)
11.4	Fire behavior requirements	Fire behavior testing shall be according to EN 45545-2:2020.	Fulfilled (Hazard level 3)
12.7.8.3	Programmable component	Table10: Class M0	Not Applicable (No user programmable components)

Note 1:

IP 30: All models except those with option P, and except those with option D or V including a potentiometer.
 IP 20: All models fitted with option P, or with option D or V with potentiometer.

Datasheet part numbers description

K Series
 150 W DC-DC and AC-DC Converters



Part Number Description

	CK	2	5	40	-9	E	R	D	3	T	B1	G
Operating input voltage V_i :												
8 – 35 VDC												
14 – 70 VDC												
20 – 100 VDC												
28 – 140 VDC												
44 – 220 VDC												
67 – 385 VDC												
100 – 240 VAC (rated voltage) or 88 – 372 VDC												
Number of outputs												
Nominal voltage of output 1 (main output) $V_{o1 nom}$												
5.1 V												
12 V												
15 V												
24 V												
Other voltages ¹												
Nominal voltage of output 2 $V_{o2 nom}$												
None (single-output models)												
12 V, 12 V												
15 V, 15 V												
24 V, 24 V												
Other specifications or additional features ¹												
Operational ambient temperature range T_A :												
-25 to 71 °C												
-40 to 71 °C												
Other ¹												
Auxiliary functions and options:												
Inrush current limitation												
Output voltage control input												
Potentiometer (output voltage adjustment)												
V_i / V_o monitor (D0 – DD, to be specified ¹)												
ACFAIL signal												
Current share control												
H15 standard connector for 5.1 V output models												
Cooling plate standard case												
Cooling plate for long case 220 mm ¹												
RoHS-compliant for all 6 substances												

¹ Customer-specific models
² Option E is mandatory for all -9 models, except AK, BK, FK.
³ Feature R excludes option P and vice versa. Option P is not available for battery charger models.
⁴ Option D excludes option V and vice versa; option V is available for single-output models with 5.1 V only.
⁵ Option K is available for single-output models with 5.1 V output to avoid the expensive H15-S4 connector.



S Series Data Sheet
100 Watt DC-DC and AC-DC Converters

Part Number Description

	CS	2	5	40	-9	E	R	D3	T	B1	G
Operating input voltage V_i:											
8 – 35 VDC											AS
14 – 70 VDC											BS
20 – 100 VDC											FS
28 – 140 VDC											CS
44 – 220 VDC											DS
67 – 385 VDC											ES
85 – 264 VAC or 88 – 372 VDC											LS
Number of outputs 1, 2											
Nominal voltage of output 1 (main output) $V_{O1\text{nom}}$											
5.1 V											0, 1, 2
12 V											3
15 V											4, 5
24 V											6
Other voltages ¹											7, 8
Nominal voltage of output 2 $V_{O2\text{nom}}$											
None (single-output models)											00
12 V, 12 V											20
15 V, 15 V											40
24 V, 24 V											60
Other specifications or additional features ¹											21 – 99
Operational ambient temperature range T_A:											
-25 to 71 °C											-7
-40 to 71 °C											-9
Other ¹											-0, -5, -6
Auxiliary functions and options:											
Inrush current limitation											E ²
Output voltage control input											R ³
Potentiometer (output voltage adjustment)											P ³
Undervoltage monitor (D0 – DD, to be specified)											D ⁴
ACFAIL signal (V2, V3, to be specified)											V ⁴
Current share control											T
Cooling plate standard case											B or B1
Cooling plate for long case 220 mm ¹											B2 ¹
RoHS-compliant for all 6 substances ⁵											G

¹ Customer-specific models

² Option E is mandatory for all -9 models, except AS and BS.

³ Feature R excludes option P and vice versa. Option P is not available for battery charger models.

⁴ Option D excludes option V and vice versa; option V is only available for models with 5.1 V single output.



**K Series with PFC Data Sheet
 150 – 280 Watt AC-DC Converters**

Part Number Description

		LK	5	5	40	-9	E	R	D3	T	B1	G
Operating input voltage V_i :												
85 – 264 VAC	LK											
187 – 255 VAC	LKP											
Number of outputs (4 = single, 5 = double)												
4, 5												
Nominal voltage output 1 (main output, $V_{O1\ nom}$)												
5.1 V	0											
12 V	3											
15 V	4, 5											
24 V	6											
Other voltages	7, 8 ¹											
Nominal voltage output 2 ($V_{O2\ nom}$)												
None (single-output models)	01											
12 V, 12 V	20											
15 V, 15 V	40											
24 V, 24 V	60											
Other specifications or additional features ¹	21 – 99 ⁶											
Operational ambient temperature range T_A :												
-25 to 71 °C	-7											
-40 to 71 °C	-9											
-25 ² to 60 °C	-6											
-25 ² to 50 °C	-5											
Other ¹	-0 ¹											
Auxiliary functions and options:												
Inrush current limitation	E ²											
Output voltage control input	R ³											
Potentiometer (output voltage adjustment)	P ³											
Undervoltage monitor (D0 – DD, to be specified)	D ⁴											
Current share	T											
H15S4 connector (rather than H15S2)	K ⁵											
Cooling plate standard case	B, B1											
Cooling plate for long case 220 mm ¹	B2 ¹											
RoHS-compliant for all 6 substances	G											

¹ Customer-specific models
² Option E is mandatory for all -9 models. Models with -5E or -6E are functional down to -40 °C.
³ Feature R excludes option P and vice versa. Option P is not available for battery charger models.
⁴ Option D excludes option V and vice versa; option V is available for models with 5.1 V output only (LK4003, etc.).
⁵ Option K is available for models with 5.1 V output only (LK4002, LK4003, etc.) in order to provide compatibility with LK1001 models.
⁶ Except numbers specified above



S Series with PFC Data Sheet
100 Watt AC-DC PFC Converters

Part Number Description

	LS	5	5	40	-9	E	R	D3	T	B1	G
Operating input voltage V_i : 85 – 264 VAC	LS										
Number of outputs	4, 5										
Single output models:											
Nominal voltage output 1 (main output), $V_{O1\ nom}$											
5.1 V	0, 1, 2										
12 V	3										
15 V	4, 5										
24 V	6										
Other voltages ¹	7, 8										
Other specifications (single output models) ¹	01 – 99										
Double output models:											
Nominal voltage output 1 and 2											
12 V, 12 V	20										
15 V, 15 V	40										
24 V, 24 V	60										
Other specifications or additional features ¹	21– 99										
Operational ambient temperature range T_A :											
–25 to 71 °C	-7										
–40 to 71 °C	-9										
Other ¹	-0, -5, -6										
Auxiliary functions and options:											
Inrush current limitation	E ²										
Output voltage control input	R ³										
Potentiometer (output voltage adjustment)	P ³										
Undervoltage monitor (D0 – DD, to be specified)	D ⁴										
ACFAIL signal (V2, V3, to be specified)	V ⁴										
Current share	T										
Cooling plate standard case	B or B1										
Cooling plate for long case 220 mm ¹	B2										
RoHS-compliant for all 6 substances	G										

¹ Customer-specific models

² Option E mandatory for all -9 models

³ Feature R excludes option P and vice versa. Option P is not available for battery charger models.

⁴ Option D excludes option V and vice versa; option V is available for 5.1 V models only.