(1) # TYPE EXAMINATION CERTIFICATE

(2) Product Intended for use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) Type Examination Certificate Number:

SIQ 14 ATEX 035 X **Issue: 1**

(4) Product: Power supply, type DRF120-24-1/HL-xyz

(5) Manufacturer: TDK-Lambda UK Ltd

(6) Address: Kingsley Avenue, Ilfracombe, Devon, EX34 8ES, United Kingdom

(7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) SIQ Ljubljana certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive 2014/34/EU.

The examination and test results are recorded in the confidential test report TEx034/23.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 + AC:2020-02 **EN IEC 60079-7:2015 + A1:2018**

EN IEC 60079-15:2019

Where additional criteria beyond those given here have been used, they are listed at item (18) in the schedule to this certificate.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) This Type Examination Certificate relates only to the design and construction of the specified product in accordance with the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 3 G Ex ec nC IIC T4 Gc

Certification body Ljubljana, 15 March 2023

Bojan Pečavar

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(13) # SCHEDULE

(14) **Type Examination Certificate Number SIQ 14 ATEX 035 X, Issue: 1**

(15) Description of Product

Power supply type DRF120-24-1/HL-xyz is an AC/DC converter installed in metal enclosure with degree of ingress protection IP20. Product is designed in type of protection Ex ec nC and is intended to be used in hazardous area in zone 2, gas group IIC and temperature class T4. Power supply has external terminals for connections and shall be installed in appropriate enclosure with degree of ingress protection at least IP54 according to EN IEC 60079-0 and EN IEC 60079-7.

Technical data

Allowed ambient temperature is from -25°C to +70°C (1).

(1) For ambient temperature from +60°C to +70°C linear derating from 100% load at +60°C to 75% load at +70°C shall be considered.

Type key:

DRF120-24-1/HL-xyz

(where xyz can be alphanumeric characters or blank and is non explosion protection related information)

Electrical ratings:

Input:	100 V – 240 V a.c., 50 Hz / 60 Hz, 1.5 A
Output:	24 V – 28 V d.c., 5 A – 4.3 A, 120 W

(16) Test Report

TEx034/23 dated 15 March 2023.

(17) Specific Conditions of Use

- Power supply shall be installed in a suitable housing so that a degree of protection of at least IP54 according to EN IEC 60079-0 and EN IEC 60079-7 is achieved. This is assured with enclosure in type of protection Ex ec or Ex eb.
- The installation in the enclosure must be carried out in such a way that the following allowed ambient temperature range for the power supply is not exceeded during operation:
  - from -25°C to +70°C with derating of 2.5%/°C above +60°C.
- The metal parts of the power supply shall be earthed.
- Adjustment of the potentiometer is allowed only when explosive atmosphere is not present.
- The distances to other components or enclosure's wall shall be at least 5 mm (left, right), 40 mm (top) and 20 mm (bottom). If the adjacent device is a heat source, the distance to it shall be at least 15 mm.

(18) Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements has been assured by compliance with the requirements of the standards listed under item (9).

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(19) Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Development specification, MODEL: DRF-120-24-1	-	-	22. 1. 2013
* Drawing SCHEMATICS, DRF120-24-1/HL, TDK-Lambda	PA618-30-01/HL – B	B	23. 6. 2020
Drawing LAYOUT (COMP), SCB445_, TDK-Lambda	PA618-31-01/HL	-	7. 7. 2014
* Drawing LAYOUT (SOLD), SCB445_, TDK-Lambda	PA618-31-02/HL – A	A	16. 12. 2015
* Drawing PATTERN (COMP), SCB445A, TDK-Lambda	PA618-31-03/HL – A, Page 1/7	A	16. 12. 2015
* Drawing PATTERN (SOLD), SCB445A, TDK-Lambda	PA618-31-03/HL – A, Page 2/7	A	16. 12. 2015
* Drawing GENERAL SPECIFICATION, SCB421_, TDK-Lambda	PA618-31-05	A	23. 12. 2013
Drawing LAYOUT (COMP), SCB422_, TDK-Lambda	PA618-31-21	C	4. 7. 2014
Drawing LAYOUT (SOLD), SCB422_, TDK-Lambda	PA618-31-22	C	4. 7. 2014
Drawing PATTERN (COMP), SCB422C, TDK-Lambda	PA618-31-23, Page 1/7	C	4. 7. 2014
Drawing PATTERN (SOLD), SCB422C, TDK-Lambda	PA618-31-23, Page 2/7	C	4. 7. 2014
* Drawing GENERAL SPECIFICATION, SCB422_, TDK-Lambda	PA618-31-25	A	13. 12. 2013
Drawing BASE 1, DRF120-24-1, TDK-Lambda	PA618-32-01	A	25. 7. 2014
Drawing BASE 2, DRF120-24-1, TDK-Lambda	PA618-32-02	A	25. 7. 2014
Drawing HEATSINK 1, DRF120-24-1, TDK-Lambda	PA618-32-04	-	8. 3. 2013
Drawing HEATSINK 2, DRF120-24-1, TDK-Lambda	PA618-32-05	B	25. 7. 2014
* Drawing FRONT SEAL, DRF120-24-1, TDK-Lambda	PA618-33-01 – C	C	25. 9. 2014
* Drawing SIDE SEAL, DRF120-24-1/HL, TDK-Lambda	PA618-33-02/HL – D	D	8. 7. 2022
* Drawing SAFETY SEAL, DRF120-24-1/HL, TDK-Lambda	PA618-33-81/HL – B	B	10. 2. 2023
Drawing PFC CHOKE SPEC, DRF120-24-1, TDK-Lambda	PA618-35-01	B	4. 7. 2014
* Drawing TRANSFORMER SPEC, DRF120-24-1, TDK-Lambda	PA618-35-02 – C	C	8. 10. 2014

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Title:	Drawing No.:	Rev. Level:	Date:
* Drawing AUX TRANSFORMER SPECS, DRF240-24-1, TDK-Lambda	PA619-35-04-E	E	10. 2. 2023
Drawing CONNECTOR, DRF240-24-1, TDK-Lambda	PA619-33-05	-	2. 1. 2013
Drawing GAP PAD1, DRF240-24-1, TDK-Lambda	PA619-33-06	A	1. 7. 2013
Drawing 3P SILICONE CAP, TDK-Lambda	PA800-00-260	-	1. 2. 2013
Drawing SPRING CLAMP TO-3P, TDK-Lambda	PA900-00-75	-	11. 11. 2013
Drawing TO-220 HEATSINK, TDK-Lambda	PA900-00-76	A	5. 6. 2014
Drawing CLAMP, DRF240-24-1, TDK-Lambda	PA619-32-11	-	14. 12. 2012
Drawing BASE INSUL1, DRF120-24-1, TDK-Lambda	PA618-33-03	B	16. 5. 2014
Drawing BASE INSUL 2, DRF120-24-1, TDK-Lambda	PA618-33-04	A	12. 11. 2013
Drawing INSUL 3, DRF120-24-1, TDK-Lambda	PA618-33-05	-	11. 11. 2013
Drawing GAP PAD 2, DRF120-24-1, TDK-Lambda	PA618-33-06	-	16. 5. 2014
* Drawing PRODUCTION DRAWING, DRF120-24-1/HL, TDK-Lambda	PA618-50-81/HL – A	A	26. 8. 2019
* DRF120 Series Instruction Manual, TDK-Lambda	PA618-04-02H	H	10. 2. 2023

*Note: An * is included before the title of documents that are new or revised.*

(20) Consolidated Certificates

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following:

- Original Type Examination Certificate No. SIQ 14 ATEX 035 X.
- Issue 1: New editions of standards were considered. Type of explosion protection was changed from "nA nC" to "ec nC" according to new editions of the standards. Some electronic components were changed or modified.

(21) Type Examination Certificates Issued under Directive 94/9/EC

In accordance with Article 41 of Directive 2014/34/EU, Type Examination Certificates referring to Directive 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. By agreement of the European Commission, Supplementary Certificates to such Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

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