[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Component intended for use on/in Equipment or Protective System**
Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU

[3] EU-Type Examination Certificate Number: **DEMKO 13 ATEX 1200U Rev. 3**

[4] Component: **Intrinsic Safety Fuses, 304, 304S and 305 Series**

[5] Manufacturer: **Littelfuse Philippines, Inc.**

[6] Address: **Lima Technology Centre, Special Economic Zone, Lipa City-Malvar, Batangas, Philippines**

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

[8] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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.

The examination and test results are recorded in confidential report no. **US/UL/ExTR13.0084/03.**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN 60079-11:2012**

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

[10] The sign "U" placed behind the certificate number indicates that this certificate should not be confused with certificates issued for equipment or protective systems. This partial certification may be used as a basis for certification of an equipment or protective systems. “Schedule of limitations” is listed under item 17 of this certificate.

[11] This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to 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 the certificate.

[12] The marking of the product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

II 1 G **Ex ia IIC Ga**

Note: The Notified Body Number and EPL Ga are marked on the smallest package label.

Certification Manager
Thomas Wilson



This is to certify that the sample(s) of the Component described herein (“Certified Component”) has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the component sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured component. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all products to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL’s prior written approval.

Date of issue: 2013-11-29
Re-issued: 2023-11-20

Notified Body
UL International Demko A/S, Ballerup 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

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Schedule
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[15] Description of Component:

The 304, 304S, and 305 Series Intrinsic Safety fuses are encapsulated fuse assemblies suitable for use in intrinsically safe apparatus and associated apparatus.

The 304 and 305 Series nomenclature is as follows:

0305	.050	M	R	P
I	II	III	IV	V

I – Series:
- 0304 or 304 = 304 Series
- 0305 or 305 = 305 Series

II – Current Rating

.050 = 0.050 A rating	.200 = 0.200 A rating
.080 = 0.080 A rating	.250 = 0.250 A rating
.100 = 0.100 A rating	.500 = 0.500 A rating
.160 = 0.160 A rating	.750 = 0.750 A rating

III – Quantity Code:
- Any alphanumeric character(s) representing number of pieces in package

IV – Packaging Code (304 Series only):
- Any alphanumeric character(s) representing the type of package

V – Lead-Free Code (optional):
- P = Lead-free solder

The 304S Series nomenclature is as follows:

0304	.050	Z	R	S	P
I	II	III	IV	V	VI

I – Series
- 0304 or 304 = 304 Series

II – Current Rating
- .050 = 0.050 A rating
- .080 = 0.080 A rating
- .100 = 0.100 A rating
- .160 = 0.160 A rating
- .200 = 0.200 A rating
- .250 = 0.250 A rating
- .500 = 0.500 A rating
- .750 = 0.750 A rating

III – Quantity Code(s)
- Any alphanumeric character(s) representing number of pieces in package

IV – Packaging Code(s)
- Any alphanumeric character(s) representing type of package

V – Designation for 304S series
- S = 304S series

VI– Lead-Free Code (optional)
- P = Lead-free solder

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Temperature range

The 304, 304S and 305 Series Intrinsic Safety fuses are suitable for use in the following ambient temperature ranges. The limits are based on the application of 1.7 times the nominal current rating, *I*n, of the fuse, temperature rise characteristics and the maximum operating temperature of the encapsulation:

Cat. No.	Nominal Current Rating, In	Ambient Temperature Range
305 Series	≤ 0.200 A	-40°C to +50°C
	0.250 A	-40°C to +46°C
	0.500 A	-40°C to +74°C
	0.750 A	-40°C to +46°C
304 and 304S Series	≤ 0.200 A	-40°C to +60°C
	0.250 A	-40°C to +56°C
	0.500 A	-40°C to +84°C
	0.750 A	-40°C to +56°C

At a room ambient of 22ºC, the following surface temperature rise values were measured on encapsulated samples of the components when carrying a current of 1.7 times the nominal current rating, *I*n, of the fuse:

Model	Nominal Current Rating	Maximum Surface Temperature Rise
305 Series	≤ 0.200 A	52°C
	0.250 A	58°C
	0.500 A	30°C
	0.750 A	41°C
304 and 304S Series	≤ 0.200 A	88°C
	0.250 A	52°C
	0.500 A	52°C
	0.750 A	45°C

Electrical data

The 304, 304S and 305 Series Fuses are rated 277 V AC/DC, 1500A AC/DC breaking capacity

These fuses were measured as having the following minimum resistance values at the following temperatures:

Model	Ampere Rating (A)	Resistance (Ω)	
		At -20°C	At -40°C
304, 304S, and 305 Series	0.050	9.202	9.010
	0.080	6.031	5.963
	0.100	2.709	2.668
	0.160	2.297	2.292
	0.200	1.935	1.839
	0.250	1.268	1.105
	0.500	0.392	0.368
	0.750	0.219	0.196

Routine tests

No routine tests were considered necessary on these fuses.

[16] Descriptive Documents

The scheduled documents are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17] Schedule of limitations:

- A temperature classification is not applied to Ex Components per Annex B, Note b of EN IEC 60079-0:2018. The fuses have been evaluated for use in the following ambient temperature ranges:

Model	Nominal Current Rating, *I*n	Ambient Temperature Range
305 Series	≤ 0.200 A	-40°C to +50°C
	0.250 A	-40°C to +46°C
	0.500 A	-40°C to +74°C

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	0.750 A	-40°C to +46°C
304 and 304S Series	≤ 0.200 A	-40°C to +60°C
	0.250 A	-40°C to +56°C
	0.500 A	-40°C to +84°C
	0.750 A	-40°C to +56°C

- Any use of the fuses outside of the ambient temperature ranges specified in the table is subject to additional investigation.
- These components have been judged on the basis of spacings in accordance with Table 5 of EN 60079-11 and are considered suitable for use in circuits with peak voltages not exceeding 375 V based on these separation distances alone.

[18] Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The trade name “LF Phil’s” will be used as the company identifier on the marking label.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

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