

TYPE EXAMINATION CERTIFICATE



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

[3] Type Examination Certificate Number: **DEMKO 03 ATEX 0313867X Rev. 3**

[4] Product: **Galvanically Isolated Barriers, 60004-00**

[5] Manufacturer: **BEI Sensors, Industrial Encoders Division**

[6] Address: **1461 Lawrence Drive, Thousand Oaks, CA 91320 USA**

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

[8] UL International Demko A/S 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **4787497856-03ATEX0313867X**

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

**EN 60079-0:2012+A11:2013
EN 60079-15:2010**

**EN 60079-11:2012
EN 60079-26:2007**

except in respect of those requirements listed at item 18 of the Schedule.

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

[11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12] The marking of the product shall include the following:

 **II 3 (1) G Ex nA [ia Ga] IIC T4 Gc**

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") 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 product 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 product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product 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: 2003-08-26

Re-issued: 2016-09-30

Certification Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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Schedule

TYPE EXAMINATION CERTIFICATE No.

DEMKO 03 ATEX 0313867X Rev. 3

[13]

[14]

[15] Description of Product:

The models 60004-00* are galvanically isolated barriers that provide isolation by way of three or six optical isolators. Additional isolation is provided by a signal transformer. The maximum safe area voltage is $U_m = 250$ V. The following is a nomenclature for the barriers:

Supply Voltage	No. of Channels	Model No.	Description
12 - 28 V	3 - Channel	60004-002	Line Driver 28V/5 100mA Source/Sink
		60004-003	Line Driver 28V/V 100mA Source/Sink
		60004-004	Open Collector 28V/OC 80mA Sink
	6 - Channel (Open Wire Detect)	60004-005	Line Driver 28V/5 100mA Source/Sink
		60004-006	Line Driver 28V/V 100mA Source/Sink

Performance testing

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1 to the scope of EN 60079-28:2015.

Temperature range:

The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range
-55°C to +75 °C

Temperature class
T4

Electrical data

Parameter	U_m	U_o	I_o	P_o	L_o	C_o
Group IIC	250 V	9.48 V	367 mA	870 mW	0.26 mH	3.7 μ F
Group IIB					1.05 mH	27 μ F
Group IIA					2.1 mH	255 μ F

Routine tests:

Transformers are subject to a routine dielectric strength test performed in accordance with EN 60079-11:2012 Clause 11.2.

[16] Descriptive Documents

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

[17] Special Conditions of Use:

- The barriers must be mounted in an enclosure with a minimum ingress protection rating of at least IP54 that encloses all current carrying components including wiring terminals. The enclosure must be ATEX certified and used in an environment of not more than pollution degree 2.
- All models covered under an ATEX certificate must be used with an ATEX-certified power supply that is evaluated to the requirements of EN 60079-0:2012+A11:2013 and EN 60079-15:2010.
- Provision shall be made to prevent the rated voltage being exceeded by the transient disturbances of more than 140%.
- The barriers are to be installed in accordance with BEI Control Drawing No. 08067-003.

[18] Essential Health and Safety Requirements

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