

[1] UNITED KINGDOM CONFORMITY ASSESSMENT

UK TYPE EXAMINATION CERTIFICATE

[2] Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

[3] UK Type Examination Certificate Number: **DNV 22 UKEX 76724X** **Issue 0**

[4] Product: **Load cell with amplifier(s)**

[5] Manufacturer: **Vishay Nobel AB**

[6] Address: **Box 423
69127 Karlskoga
SWEDEN**

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

[8] DNV Business Assurance UK Ltd, Approved Body number 8501 in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

The examination and test results are recorded in confidential reports listed in item 16.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: **EN IEC 60079-0:2018, EN 60079-11: 2012 and EN 50303 :2000**

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

[10] If the sign “X” is placed after the certificate number, it indicates that the product is subject to the “Specific Conditions of Use” listed under item 17 of this certificate.

[11] This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

	I 1 M1	Ex ia I Ma	- 45°C ≤ Ta ≤ +70°C
	II 1 G	Ex ia IIC T4 Ga	- 45°C ≤ Ta ≤ +70°C
	II 1 D	Ex ia IIC T79°C Da	- 45°C ≤ Ta ≤ +70°C



Date of issue:
2023-04-17



Asle Kaastad
For DNV Business Assurance UK Ltd
The Certificate has been digitally signed.
See www.dnv.com/digitalsignatures for info

[13] **Schedule**

[14] **UK Type Examination Certificate No:** DNV 22 UKEX 76724X Issue 0

[15] **Description of Product**

KxxD-RA(D) is a series of load cells, this certificate covers the KIMD and KOSD types. They incorporate resistive strain gauges, measuring the shear force, and types of replaceable signal conditioning amplifiers with 2-wire 4-20mA current loop output with HART communication and NAMUR high error signalling. Housed in an IP67 approved enclosure. These load cells are approved for use in an explosive gas and dust area, provided that suitable intrinsic safety barriers are used. Two different metallic cylinders are included: KOSD is made of metal and KIMD which also is made of metal but in addition have compound as a part of the external enclosure and therefore includes a Warning – Potential electrostatic hazard.

The load cell consists of replaceable amplifier, housed in the metallic cylinder ends, filled with casting compound. Three different end terminations are included: connector (LCAMP110), cable (LCAMP120) and blind (LCAMP130).

In addition the load cell can be equipped with either single or double Bridge.

Type designation

The KxxD load cell can be used with replaceable signal amplifiers as follows :

- KxxD-RA: Primary LCAMP110 with 4-pin M12 connector.
- KxxD-RA: Primary LCAMP120 with fixed shielded 4 wire cable.
- KxxD-RAD: Primary LCAMP110 or 120 and optional Secondary LCAMP110, 120 or blind 130.

The RA-versions have one electrical circuit and the RAD-version two separate electrical circuits. For the RAD-version the safety parameters are applicable to each circuit. Connection to indicator and power supply is made by two-wires in a common external connector or fixed cable for each amplifier.

Electrical Data

Maximum input voltage:	U _i =30 V
Maximum input current:	I _i =100 mA
Maximum input power:	P _i =0.7 W
Maximum internal capacitance:	C _i =57 nF
Maximum internal inductance:	L _i =4.4 μH

- Total cable capacitance must not exceed 9.0nF for use in Group IIC.
- Total cable capacitance must not exceed 503nF for use in Group IIB and Group III.
- Total cable capacitance must not exceed 3μF for use in Group I.

Degrees of protection (IP Code)

IP67 according to IEC 60529.

Ambient temperature:

- 45°C ≤ T_a ≤ +70°C

Routine tests

None

[16] **Report No.:** 233865/01

[17] **Specific Conditions of Use**

1. The load cell shall only be connected to equipment that has adequate safety parameters according to the load cell's safety parameters [15].
2. The models KIMD-RA and KIMD-RAD have outside potted cavities. No rubbing on these non-metallic surfaces are allowed.

3. The free end of the connected external cable must be installed such that the terminations are afforded a degree of protection of at least IP20.
4. Use of secondary current loop output on primary side when using LCAMP110 or LCAMP120 as secondary amplifier on KxxD-RAD is not allowed.

Notes for manufacture, installation and operation:

- Additional manufacturing locations.
- Manufacturers HQ address:
Vishay Nobel AB
Skrantahöjdsvägen 40
691 46 Karlskoga
SWEDEN
- Manufacturers Production address:
Vishay Nobel AB
Gjuterigatan 12
693 35 Degerfors
SWEDEN

[18] Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

[19] Drawings and documents

Number	Title	Rev.	Date
270150	ATEX & IECEx DOCUMENT LIST	6	2022-11-07

[20] Certificate History

Issue	Description	Issue date	Report no.
0	Original issue	2023-04-17	233865/01

END OF CERTIFICATE