

EC-Type Examination Certificate

- [2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC
- [3] EC-Type Examination Certificate Number: Presafe 14 ATEX 4470X Issue 1
- [4] Equipment or Protective System: Load cell with integrated amplifier(s)
- [5] Applicant – Manufacturer or Authorized representative: Vishay Nobel AB
- [6] Address: Box 423
69127 Karlskoga
SWEDEN
- [7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV Nemko Presafe AS, notified body number 2460 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential reports listed in section 14.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 60079-0: 2012, EN 60079-11: 2012 and EN 50303: 2000
- [10] If the sign “X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protected system. If applicable, further requirements of this Directive apply to the manufacturer and supply of this equipment or protective system.
- [12] The marking of the equipment or protective system shall include the following:

	I M1	Ex ia I Ma	- 45°C ≤ Ta ≤ +70°C
	II 1 G	Ex ia IIC T5 Ga	- 45°C ≤ Ta ≤ +70°C
	II 1 D	Ex ia IIIC T84°C Da	- 45°C ≤ Ta ≤ +70°C

Bjørn Spongsveen
For DNV Nemko Presafe AS
Information on electronic signature www.presafe.com



Date of issue: 2015-01-14

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[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE No.:** Presafe 14 ATEX 4470X Issue 1

[15] **Description of Equipment or Protective System**

KxxD-FA(D) is a series of load cells of different size. This certificate covers three different enclosures made of stainless steel or zinc coated toughened steel: KIMD, KOSD and KEND. Three different end terminations are included: cable connector, permanent connected cable and blind plug.

They incorporate resistive strain gauges, measuring the shear force (KIMD, KOSD) and tension (KEND). They are equipped with one or two integrated amplifiers, each with 2-wire, 4-20mA current loop output. All 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.

Type Identification

The following type identification is included:

- KIMD-FA(D)
- KOSD-FA(D)
- KEND-FA(D)

The FA-versions have one electrical circuit and the FAD-version two separate electrical circuits. For the FAD-version the safety parameters are applicable to each circuit. Connection is made by two-wires, separated from each other in a common external connector or fixed cable for each amplifier.

Electrical Data

Safety parameters for intrinsically safe connection:

Maximum input voltage, $U_i=30V$

Maximum input current, $I_i=100mA$

Maximum input power, $P_i=0.7W$

Maximum internal capacitance, $C_i=56.5nF$

Maximum internal inductance, $L_i=4.4\mu H$

- Total cable capacitance must not exceed 9.5nF for use in Group IIC.
- Total cable capacitance must not exceed 0.5 μF for use in Group IIB and Group III.
- Total cable capacitance must not exceed 3 μF for use in Group I.

Degrees of protection (IP Code)

IP67 according to IEC 60529.

Additional manufacturing locations.

Manufacturers HQ address:	Manufacturers Production address:
Vishay Nobel AB Skrantahöjdsvägen 40 691 46 Karlskoga SWEDEN	Vishay Nobel AB Gjuterigatan 12 693 35 Degerfors SWEDEN

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[16] **Project No.:** D0001188 Rev 1

Descriptive Documents

Number	Title	Rev.	Date
270204	ATEX & IECEx document list, KxxD-FA(D) Load cell	2	2015-01-07

Certificate History

Issue	Description	Report no.	Issue date
0	Original issue	D0001188	2014-05-07
1	Minor changes of the design and reduction of the ambient temperature from -40°C to -45°C.	D0001188 Rev 1	2015-01-14

[17] **Special Conditions for Safe Use**

- The load cell shall only be connected to equipment that has adequate safety parameters according to the load cell's safety parameters [15].
- The models KIMD-FA(D) have outside potted cavities. No rubbing on these non-metallic surfaces are allowed.
- The free end of the connected external cable must be installed such that the terminations are afforded according to Cl. 6.1 and 6.2 of the standard EN 60079-11.

[18] **Essential Health and Safety Requirements**

See part 9 of this certificate

END OF CERTIFICATE