

**(1) EC-TYPE EXAMINATION CERTIFICATE****(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 05ATEX1252** Issue Number: **2**

(4) Equipment: **Fuel Conductivity Sensor Type JF-1A and Type JF-1A-HP**

(5) Manufacturer: **D-2 Incorporated**

(6) Address: **21 A Commerce Park Road, Pocasset, MA 02559, U.S.A.**

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

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 test report number 2107124.

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

**EN 50014 : 1997 + A1, A2      EN 50020 : 2002      EN 50018 : 2000 + A1**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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



**II 2 G EEx d[ia] IIC T4**

This certificate is issued on 14 August 2007 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

KEMA Quality B.V.



C. G. van Es  
Certification Manager



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 05ATEX1252**

Issue No. 2

(15) **Description**

The Fuel Conductivity Sensor Type JF-1A and Type JF-1A-HP is used for the measurement of the electrical conductivity of a fluid. The measurement signal of the conductivity sensor is converted into a 4 - 20 mA current signal.

Optionally, the Fuel Conductivity Sensor is provided with a temperature sensor.

For communication an RS232 interface is provided.

The apparatus consists of an aluminium enclosure in type of protection flameproof enclosure "d", with a sensor in type of protection intrinsic safety "ia".

Ambient temperature range: -20 °C to +60 °C.

Maximum process temperature: +40 °C.

Maximum process pressure: 1600 kPa (16 Bar) for Type JF-1A  
10000 kPa (100 Bar) for Type JF-1A-HP

**Electrical data**

Supply:

Maximum voltage 38 Vdc; maximum power 3 W.

All connected circuits:

$U_m = 250$  Vac.

Sensor circuits (internal circuit):

In type of protection intrinsic safety EEx ia IIC.

**Installation instructions**

Earth connection

The transmitter shall be connected to the equipotential bonding system. For connection of the external earthing or bonding conductor a cable lug shall be used. The conductor shall be mounted so that it is secured against loosening and twisting and that the contact pressure is permanently maintained.

Cable entry

The cable entry devices for the pressure transmitter shall be certified and in type of protection flameproof enclosure "d", suitable for the conditions of use and correctly installed.

The closing elements of unused apertures shall be certified, suitable for the conditions of use and correctly installed.

Conduit entry

A certified sealing device such as a stopping box with setting compound shall be provided, either in the conduit entry of the housing or immediately at the entrance thereto.

Process

The Fuel Conductivity Sensor may only be connected to processes which do not contain an explosive mixture, unless the process pressure is less than 110 kPa (1,1 bar).



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 05ATEX1252**

Issue No. 2

(16) **Test Report**

KEMA No. 2107124.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 2107124.