

CERTIFICATE

(1) EC-Type Examination

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

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1392 X** Issue Number: **4**

(4) Equipment: **Mark 1, 3 and 4 Position Indicating Switches ModelIS**

(5) Manufacturer: **Dwyer Instruments, Inc.**

(6) Address: **102 Indiana Highway 212, Michigan City, IN 46360, USA**

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

(8) DEKRA Certification 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 NL/DEK/ExTR11.0064/**.

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

EN 60079-0 : 2009

EN 60079-11 : 2007

EN 60079-26 : 2007

(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 1 G Ex ia IIC T4 Ga

This certificate is issued on 7 July 2011 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.

DEKRA Certification B.V.

C.G. van Es
Certification Manager

Page 1/3

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(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1392 X**

Issue No. 4

(15) **Description**

Mark 1, 3 and 4 Position Indicating Switch ModelIS is an assembly, used in conjunction with a valve, damper and/or actuator to which it is mechanically or magnetically linked.

The switches provide a visual and an electrical output corresponding to the position of a valve, damper and/or actuator.

The electrical signals are, depending on the version, provided by a potentiometer, a 4 - 20 mA current transmitter (with or without HART communication), proximity sensors (Namur) or switch contacts.

Ambient temperature range:

-25 °C to +40 °C for switches type D and I

-40 °C to +40 °C for switches type O, R, S, V and W

-50 °C to +40 °C for switches type A, G and H

Electrical data

Potentiometer circuit

Supply and output (terminals 1 and 3 and 2 and 3 respectively):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$; $I_i = 50 \text{ mA}$; $P_i = 0,65 \text{ W}$; $C_i = 0 \text{ nF}$; $L_i = 0 \text{ mH}$.

Transmitter circuit (with or without HART communication)

Supply and output (terminals + and -):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$; $I_i = 100 \text{ mA}$; $P_i = 1,3 \text{ W}$; $C_i = 4 \text{ nF}$ ($C_i = 0 \text{ nF}$ for the transmitter without HART communication); $L_i = 0 \text{ mH}$.

Sensor circuit (Namur)

Supply and output (terminals + and -):

in type of protection intrinsic safety Ex ia IIC, only for connection to certified intrinsically safe circuits, with following maximum values per sensor circuit:

$U_i = 16 \text{ V}$; $I_i = 76 \text{ mA}$; $P_i = 0,242 \text{ W}$; $C_i = 40 \text{ nF}$; $L_i = 50 \text{ }\mu\text{H}$.

Switch circuit (contacts)

Supply and output (terminals C, NC and NO):

in type of protection intrinsic safety Ex ia IIC, only for connection to certified intrinsically safe circuits, with following maximum values per switch circuit:

$U_i = 30 \text{ V}$; $I_i = 100 \text{ mA}$; $P_i = 1,3 \text{ W}$; $C_i = 0 \text{ nF}$; $L_i = 0 \text{ mH}$

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

NL/DEK/ExTR11.0064/**.

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1392 X**

Issue No. 4

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

Because the enclosure of the Position Indicating Switch is made of aluminium, if it is mounted in an area where the use of category 1 G equipment is required, it must be installed such that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

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

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR11.0064/**.