

Translation

(1) **EC-Type-Examination Certificate**

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



(3) **Certificate Number** TÜV 13 ATEX 129516 X

(4) for the equipment: Positioner for hydraulic actuators  
IHP24-I-00000 and IHP24-I-10000 (with Hart Modem)

(5) of the manufacturer: Val Controls A/S

(6) Address: Limfjordsvej 3, 6715 Esbjerg  
Denmark

Order number: 8000426098

Date of issue: 2014-07-09

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EC-Type-Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), 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 the confidential report No. 13 203 129516

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

EN 60079-0:2012


EN 60079-11:2012

EN 60079-26:2007

(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, examination and tests of the specified equipment in accordance 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 or protective system must include the following:

 **II 1G Ex ia IIC T4/T5/T6 Ga**

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Meyer

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(13) **SCHEDULE**

(14) **EC-Type-Examination Certificate No. TÜV 13 ATEX 129516 X**

(15) Description of equipment

IHP24-I is an Intelligent Hydraulic Positioner for hydraulic actuators. From a control room it receives a variable control loop signal 4-20mA. Position is send back to the control room via 4-20mA transmitter loop. Regulating of the position is done by switching on and off DO1, DO2, DO3. The position on the actuator is measured from a position sensor that can be one of the two types:

- Position sensor .. A potentiometer 1Kohm to 20 Kohm – is a simple apparatus.
- Position Loop ... An ATEX approved intrinsically safe sensor that gives the position back as a 4-20mA signal, powered from the loop current. This sensor could be from a third party supplier and are not covered by this report.

24V power is delivered from a power supply supplied through Zener Barrier modules. The positioner is designed for DIN rail mounting inside cabinet.

The IHP24-I has up to 6 Zener Barriers connected simultaneously. Each intrinsically safe circuit are galvanic separated inside IHP24-I.

The specifications for intrinsically safe entity parameters are listed in the manufacturers User Manual and in this certificate.

Recommended barriers are listed in the User Manual. Other barriers fulfilling the intrinsically safe parameters can be used.

**Type key:**

IHP24-I-00000 and

IHP24-I-10000 (with Hart Modem signals on terminal 1, 2)

**Technical data:**

<b>Terminal 1, 2</b> (Incoming Control Signal 4-20mA) $U_i \leq 28V$ $I_i \leq 100mA$ $P_i \leq 1.2W$ $C_i \leq 100nF$ $L_i \approx 0$	<b>Terminal 3, 4</b> (Transmitter Feedback Signal 4-20mA) $U_i \leq 28V$ $I_i \leq 100mA$ $P_i \leq 1.2W$ $C_i \leq 10nF$ $L_i \approx 0$
<b>Terminal 5, 6</b> (Main Supply 24VDC) $U_i \leq 28V$ $I_i \leq 200mA$ $P_i \leq 1.35W$ $C_i \leq 68nF$ $L_i \leq 120\mu H$	<b>Terminal 8, 9, 10</b> (Passive Potentiometer 1K – 20Kohm) – Simple Apparatus $U_o \leq 6V$ $I_o \leq 6mA$ $P_o \leq 0.04W$ $C_i \leq 10\mu F$ $L_i \approx 0$
<b>Terminal 11, 12</b> (Position Transmitter 4-20mA) $U_o$ follows the connected barrier to Terminal 5, 6 $I_o \leq 88mA$ $P_o \leq 0.62W$ $C_i \leq 10nF$ $L_i \approx 0$	<b>Terminal 13, 14</b> (DO1 - Solenoid 1 Output) $U_o$ follows the connected barrier to Terminal 15, 16 $I_o$ follows the connected barrier to Terminal 15, 16 $P_o$ follows the connected barrier to Terminal 15, 16 $C_i \approx 0$ $L_i \approx 0$
<b>Terminal 15, 16</b> (Solenoid 1 Output Power Supply) $U_i \leq 28V$ $I_i \leq 341mA$ $P_i \leq 1.65W$ $C_i \approx 0$ $L_i \approx 0$	<b>Terminal 17, 18</b> (DO2 - Solenoid 2 Output) $U_o$ follows the connected barrier to Terminal 19, 20 $I_o$ follows the connected barrier to Terminal 19, 20 $P_o$ follows the connected barrier to Terminal 19, 20 $C_i \approx 0$ $L_i \approx 0$
<b>Terminal 19, 20</b> (Solenoid 2 Output Power Supply) $U_i \leq 28V$ $I_i \leq 341mA$ $P_i \leq 1.65W$	<b>Terminal 21, 22</b> (DO3 - Solenoid 3 Output) $U_o$ follows the connected barrier to Terminal 23, 24 $I_o$ follows the connected barrier to Terminal 23, 24 $P_o$ follows the connected barrier to Terminal 23, 24

Schedule EC-Type Examination Certificate No. TÜV 13 ATEX 129516 X

Ci ≈ 0 Li ≈ 0	Ci ≈ 0 Li ≈ 0
<b>Terminal 23, 24 (Solenoid 3 Output Power Supply)</b> Ui ≤ 28V Ii ≤ 34 1mA Pi ≤ 1.65W Ci ≈ 0 Li ≈ 0	

**Permissible range of ambient temperature:**

T6 for Ta: from -30°C to +45°C

T5 for Ta: from -30°C to +60°C

T4 for Ta: from -30°C to +85°C

Ta of Electronic with Display component LCD1:

-30°C to +80°C

Ta of Electronic without proper Display Functionality:

-30°C to +85°C

(16) Test documents are listed in the test report No. 13 203 129516

(17) Special conditions for safe use

Warning marking: "WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS"

(18) Essential Health and Safety Requirements

no additional ones