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INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres for rules and details of the IECEx Scheme visit www.iecex.com						
Certificate No.:	IECEx TUN 13.0039X	Page 1 of 6	Certificate history:			
Status:	Current	Issue No: 1	Issue 0 (2014-07-09)			
Date of Issue:	2017-07-06					
Applicant:	Val Controls A/S Limfjordsvej 3 6715 Esbjerg Denmark					
Equipment:	Valve Controller type: IHP24-I					
Optional accessory:						
Type of Protection:	Intrinsically Safe "ia"					
Marking:	Ex ia IIC T4/T5/T6 Ga					
Approved for issue or Certification Body:	n behalf of the IECEx	Andreas Meyer				
Position:		Head of the IECEx CB				
Signature: (for printed version)						
Date: (for printed version) 1. This certificate and s 2. This certificate is not 3. The Status and author	chedule may only be reproduced in full. transferable and remains the property of the issu enticity of this certificate may be verified by visitin	iing body. g www.iecex.com or use of this QR Code.				
Certificate issued	by:		\frown			

TÜV NORD CERT GmbH Hanover Office Am TÜV 1, 30519 Hannover Germany





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Manufacturer:	Val Controls A/S Limfjordsvej 3 6715 Esbjerg Denmark	

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/TUN/ExTR14.0002/00

Quality Assessment Report:

GB/EXV/QAR17.0016/00



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

IHP24-I is an Intelligent Positioner for hydraulic actuators. 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. 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.

Type key:

1) IHP24-I-00000

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

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

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.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) $\underline{\text{Issue 1}}$

No technical changes, the QAR was changed.



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Additional information:

Intrinsically Safe entity parameters:

Terminal 1, 2 (Incoming Control Signal 4-20mA)	Terminal 3, 4 (Transmitter Feedback Signal 4-20mA)
Ui <= $28V$	Ui <= $28V$
Ii <= $100mA$	Ii <= $100mA$
Pi <= $1.2W$	Pi <= $1.2W$
Ci <= $100nF$	Ci <= $10nF$
Li ≈ 0	Li ≈ 0
Terminal 5, 6 (Main Supply 24VDC)	Terminal 8, 9, 10 (Passive Potentiometer $1K - 20Kohm$) – Simple Apparatus
Ui <= 28V	Uo <= $6V$
Ii <= 200mA	Io <= $6mA$
Pi <= 1.35W	Po <= $0.04W$
Ci <= 68nF	Ci <= $10uF$
Li = <= 120uH	Li ≈ 0



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Terminal 11 Uo follows ti lo <= 88mA Po <= 0.62V Ci <= 10nF Li ≈ 0	l , 12 (Position Transmitter 4-20mA) he connected barrier to Terminal 5, 6 V	Terminal 13, 14 (DO1 - Solenoid 1 Output) Uo follows the connected barrier to Terminal 15, 16 Io follows the connected barrier to Terminal 15, 16 Po follows the connected barrier to Terminal 15, 16 Ci \approx 0 Li \approx 0	
Terminal 15 Ui <= 28V Ii <= 341mA Pi <= 1.65W Ci ≈ 0 Li ≈ 0	5, 16 (Solenoid 1 Output Power Supply)	Terminal 17, 18 (DO2 - Solenoid 2 Output) Uo follows the connected barrier to Terminal 19, 20 Io follows the connected barrier to Terminal 19, 20 Po follows the connected barrier to Terminal 19, 20 Ci ≈ 0 Li $\approx = 0$	
Terminal 19 Ui <= 28V Ii <= 341mA Pi <= 1.65W Ci ≈ 0 Li ≈ 0	9 , 20 (Solenoid 2 Output Power Supply)	Terminal 21, 22 (DO3 - Solenoid 3 Output) Uo follows the connected barrier to Terminal 23, 24 Io follows the connected barrier to Terminal 23, 24 Po follows the connected barrier to Terminal 23, 24 Ci ≈ 0 Li ≈ 0	
Terminal 23 Ui <= 28V Ii <= 34 1mA Pi <= 1.65W Ci ≈ 0 Li ≈ 0	3, 24 (Solenoid 3 Output Power Supply)		