IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx NEP 24.0041X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2024-12-31

Applicant: **Chongqing ChuanYi Control Valve Co., LTD**
No.879 Caihe Rd., Caijiagang Town, Beibei District,
Chongqing 400707
China

Equipment: **VF04E Series VF04E Limit Switch**

Optional accessory:

Type of Protection: **Ex db, tb, ia**

Marking: Ex db IIB/IIC T6…T4 Gb, Ex tb IIIC T85°C...T135°C Db

Ex ia IIC T6...T4 Gb, Ex ib IIIC T135°C Db

Ta: -40°C～+45°C, 60°C or 80°C

Approved for issue on behalf of the IECEx Certification Body: **Guo Aihua**

Position: **General Manager**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Shanghai Inspection and Testing Institute of Instruments and Automatic Systems Co., Ltd. (SITIIAS)/
National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI)
103 Cao Bao Road
Shanghai 200233
China

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Date of issue: 2024-12-31 Issue No: 0

Manufacturer: **Chongqing ChuanYi Control Valve Co., LTD**
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Chongqing 400707
China

Manufacturing locations: **Chongqing ChuanYi Control Valve Co., LTD**
No.879 Caihe Rd., Caijiagang Town,
Beibei District,
Chongqing 400707
China

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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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 Reports:

CN/NEP/ExTR24.0057/00 CN/NEP/ExTR24.0058/00

Quality Assessment Report:

CN/NEP/QAR23.0015/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

VF04E Series VF04E Limit Switch is a field instrument of the automatic control system and is used for detecting valve conditions. Also it can be used for interlock protection and remote warning indication for the important valves in the automatic control system.

The enclosure of this equipment is made of aluminium ADC12 or CF3M, proximity sensors certified, terminals and connecting wires inside are provided. The spindle is made of 304 stainless steel. The product has only one chamber. O-ring is installed between the cover and body to provide the IP67 class (IEC60529).

Refer to annex for further information.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to annex.

Annex:

IECEx NEP 24.0041X Annex.pdf

VF04E Series VF04E Limit Switch are designed as Ex db, Ex tb; Ex ia

1. When the product is used with Ex marking Ex ia IIC T6...T4 Gb, Ex ib ⅢC T135℃ Db:

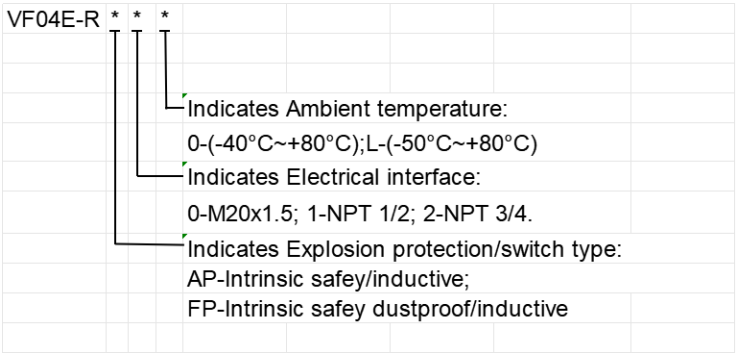
The function and safe parameters are listed as following.

Sensor type	Ui (V)	Ii (mA)	Pi (mW)	Ci(nF)	Li(uH)
NJ2-V3-N	16	52	169	40	50
SJ3.5-SN	16	52	169	30	100

The relationship between the ambient temperature and temperature class and maximum surface temperature is as below:

Product type	Sensor type	Ambient temperature(℃)	Temperature class	Maximum surface temperature
VF04E-R *a b* 0	NJ2-V3-N	-40～+80	T4	T135℃
VF04E-R *a b* 0		-40～+60	T5	
VF04E-R *a b* 0		-40～+45	T6	
VF04E-R *a b* L	SJ3.5-SN	-50～+80	T4	
VF04E-R *a b* L		-50～+60	T5	
VF04E-R *a b* L		-50～+45	T6	

Type definition



Specific Conditions of Use:

1. The ambient temperature range is -50℃/-40℃～+45℃, 60℃ or 80℃.
2. Observe the warning:

WARNING-POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.

WARNING-DO NOT OPEN WHEN AN EXPLOSIVE DUST ATMOSPHERE IS PRESENT.

3. Separately cable gland, blanking plug complied with IEC60529 shall be installed to the cable entry and ensure at least IP67 fulfilled after installation.

4. The service temperature rise of cable for field wiring shall be 6K, when the product is installed in the ambient temperature more than 64℃.

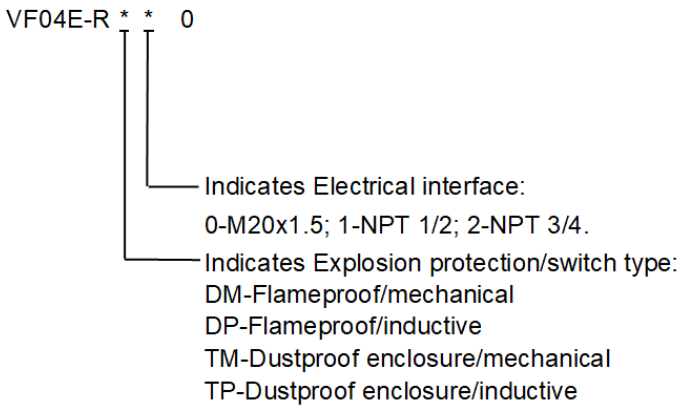
2. When the product is used with Ex marking Ex db IIB/IIC T4…T6 Gb, Ex tb IIIC T135°C Db: The switch type, switch model and safe parameters are listed as following.

Switch Type	Switch Model	Rated Voltage	Rated Current
Inductive	NJ2-V3-N×2	8V DC	52mA
Inductive	SN3.5-SN×2	8V DC	52mA
Mechanical	/	24V DC, 220V AC	5A
Inductive	BD2-S0-Q13-0.15M-DT	8V DC	30mA

The relationship between the ambient temperature and temperature class and maximum surface temperature is as below:

Ambient temperature(°C)	Ex marking	Maximum surface temperature
-40~+80	Ex db IIB T4 Gb	T135°C
-40~+60	Ex db IIB/IIC T4/T5 Gb	
-40~+45	Ex db IIB/IIC T6…T4 Gb	

Type definition



Specific Conditions of Use:

1. Contact the original manufacturer for the information of dimension of flameproof joint.
2. Special fastener performance rating is A2-70.
3. The max service temperature rise of cable for field wiring shall be 6K, when the product is installed in the ambient temperature more than 64°C.
4. Observe the warning:

WARNING-DO NOT OPEN WHEN ENERGIZED.
WARNING-POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
WARNING-DO NOT OPEN WHEN AN EXPLOSIVE DUST ATMOSPHERE IS PRESENT.

5. The cable entry shall be installed with certified cable gland or blanking element, complying with IEC 60079-0, IEC 60079-1 and IEC 60079-31 with type of protection Ex db IIB Gb or Ex db IIC Gb, Ex tb IIIC Db, thread type M20×1.5, 1/2NPT, 3/4 NPT and degree of protection IP67.