

SITIIAS

# 产品认证证书

证书编号: CSFS19.00411

申请人名称、地址

常州市武翔仪表有限公司

江苏省常州市武进区横林镇崔桥街

制造商名称、地址

常州市武翔仪表有限公司

江苏省常州市武进区横林镇崔桥街

生产厂名称、地址

常州市武翔仪表有限公司

江苏省常州市武进区横林镇崔桥街

产品商标



产品名称和系列、型号、规格

WRaK-b-c-d-e 热电偶

认证依据标准

IEC 61508-1:2010, IEC 61508-2:2010

上述产品符合下述自愿性产品认证实施规则的要求:

SITIIAS-RJ03-02 A/3 《功能安全产品认证实施规则》,

特发此证。

产品相关信息详见附件。

认证模式

型式试验+初始工厂检查+获证后的监督

发证日期: 2019年11月8日 有效期至: 2024年11月7日

首次发证日期: 2019年11月8日

本证书在有效期内的有效性依据发证机构监督的符合结果予以保持, 本证书的具体信息可通过发证机构官方网站查询。



中国认可产品  
PRODUCT  
CNAS C214-P

批准人: 

日期: 2019年11月8日

上海仪器仪表自控系统检验检测所有限公司

地址: 中国·上海 上海市漕宝路103号 邮编: 200233

电话: 021-64516350 传真: 021-64849355 网址: www.sitiias.com.cn



# 产品认证证书附件

证书编号: CSFS19.00411

**产品名称:** 热电偶 **型号规格:** WRaK-b-c-d-e

**描述:** WRaK-b-c-d-e热电偶: a表示热电偶的材料: 可为M、N、E、F或C; b表示过程连接形式: 可为1-无固定, 2-螺纹安装, 4-法兰安装; c表示产品系列: 可为3-防水, 4-防爆, 7-扁插, 9-引线; d表示设计序号: 可为空白或0, 1, S, B; e表示温套管结构形式: 可为空白或套管代码

热电偶是温度测量仪表中常用的测温元件, 它直接测量温度, 并把温度信号转换成热电动势信号, 通过电气仪表(二次仪表)转换成被测介质的温度。热电偶通常由热电极、绝缘套保护管和接线盒等主要部分组成。

安全功能: 在产品测温范围内, 保证温度准确测量且满足精度要求。

**依据标准:** IEC 61508-1:2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General Requirements  
IEC 61508-2:2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems

**安全完整性等级 (SIL):** 根据 IEC 61508:2010, 硬件安全完整性等级确定采用路径 2H 的方法, WRaK-b-c-d-e 热电偶属于 A 类安全相关组件 (Type A), 其 HFT(硬件故障裕度)=0 时, 安全完整性等级达到 SIL2, 其 HFT(硬件故障裕度)=1 时, 安全完整性等级达到 SIL3。

失效分类	$\lambda_{NE}$	$\lambda_S$	$\lambda_{DU}$	$\lambda_{DD}$	$PFD_{avg}$ ( $T_1=1Y$ )
失效率	0	0	135.8	0	5.95E-04
说明: 失效率的单位为 FIT, 1FIT=1×10 <sup>-9</sup>					

**其他说明:** 用户需按安装和维护手册的要求对产品进行安装、使用、定期检查和维护。

**备注:**

编号为 J19-060-RZ-CJ 报告是本证书的组成部分。本证书仅对与认证文件和样品一致的产品有效。认证文件等由 SITIAs 保存。

上海仪器仪表自控系统检验测试所有限公司

2019年11月8日







# PRODUCT CERTIFICATION

No.: CSFS19.00411

## NAME AND ADDRESS OF THE APPLICANT

CHANGZHOU WUXIANG INSTRUMENT Co.,LTD.  
Cuiqiao Street Henglin Town Wujin District Changzhou City Jiangsu China

## NAME AND ADDRESS OF THE Manufacturer

CHANGZHOU WUXIANG INSTRUMENT Co.,LTD.  
Cuiqiao Street Henglin Town Wujin District Changzhou City Jiangsu China

## NAME AND ADDRESS OF THE FACTORY

CHANGZHOU WUXIANG INSTRUMENT Co.,LTD.  
Cuiqiao Street Henglin Town Wujin District Changzhou City Jiangsu China

## Product Trademark



## NAME,MODEL AND SPECIFICATON

WRaK-b-c-d-e Thermocouple

## THE STANDATDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS

IEC 61508-1:2010, IEC 61508-2:2010

**This is to certify that the above mentioned products have met the requirement of certification rules :**

SITIIAS-RJ03-02 A/3: Implemented rules for certification of functional safety products  
Product information detailed in the attachment

## CERTIFICATION MODE

Type test+Initial industry inspection+Supervision after obtaining the certificate

**Date of Issued:** Nov. 8, 2019

**Date of expiry:** Nov. 7, 2024

**Date of original certification:** Nov. 8, 2019

**Validity of this certificate is subject to positive result of the regular follow up inspection by issuing certification body until the expiry date. Specific information of this certificate can be found by this certificate issuing agency official website.**



中国认可产品  
PRODUCT  
CNAS C214-P

Authorized by :  DATE: Nov. 8, 2019

**Shanghai Inspection and Testing Institute of Instrumentation and Automation Systems Co.,Ltd.**

Address: 103 Caobao Road Shanghai, P.R. of China ,200233  
Tel: 86 21 64516350 Fax: 86 21 64849355 Website: www.sitiias.com.cn



# PRODUCT CERTIFICATION ATTACHMENT

No.: CSFS19.00411

**Product:** Thermocouple **Model :** WRaK-b-c-d-e  
**Description:** WRaK-b-c-d-e Thermocouple: a indicates the material of the thermocouple: it can be M, N, E, F or C; b indicates the process connection form: it can be 1-unfixed, 2-threaded installation, 4-flange installation; c indicates product series: can be 3-waterproof, 4-explosion-proof, 7-flat plug, 9-lead; d indicates design serial number: can be blank or 0,1, S,B; e Represents the form of a temperature casing structure: can be blank or casing code

Thermocouple is a commonly used temperature measuring component in temperature measuring instruments. It directly measures the temperature and converts the temperature signal into a thermoelectromotive force signal, which is converted into the temperature of the measured medium by an electric meter (secondary meter). Thermocouples usually consist of a main part such as a hot electrode, an insulating sleeve protection tube and a junction box.

Safety function: within the range of product temperature measurement, the temperature is accurately measured and meet the accuracy requirements.

**Standards:** IEC 61508-1:2010 Functional safety of electrical/electronic/ programmable electronic safety-related systems – Part 1: General Requirements

IEC 61508-2:2010 Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems

**Safety Integrity Level (SIL) :** According to IEC 61508: 2010, The hardware safety integrity level determines the method using path 2H,WRaK-b-c-d-e Thermocouple belongs to class A safety related components, when its HFT (hardware fault tolerance) = 0, the safety integrity level can reach SIL2 and when its HFT (hardware fault tolerance) = 1, the safety integrity level can reach SIL3.

Failure classify	$\lambda_{NE}$	$\lambda_S$	$\lambda_{DU}$	$\lambda_{DD}$	PFD <sub>avg</sub> (T <sub>1</sub> =1Y)
Failure rate	0	0	135.8	0	5.95E-04
说明: 失效率的单位为 FIT, 1FIT=1×10 <sup>-9</sup>					

**Other explanation:** Proof test and routine inspection should be performed according to User Manual.

**Note:** Test Report Number J19-060-RZ-CJ is integral parts of this certificate. This Certificate is valid for products compatible with the documents and samples approved by SITIAs. The documents and sample are kept by SITIAs.

Shanghai Inspection and Testing Institute of Instrumentation and Automation Systems Co.,Ltd.  
 Nov.8, 2019

