

ICS 71.040.01

CCS N 53



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 29814-2013

On-line analyser systems -- Guide to design and installation

在线分析器系统的设计和安装指南

(English Translation)

Issued on: November 12, 2013

Implemented on: March 15, 2014

Issued by: Standardization Administration of China

Table of Contents

Introduction

Introduction

1 General

1.1 Scope

1.2 Normative references

1.3 Evaluation 2 basis

1.4 Supplementary Assessment

1.5 Reliability

1.6 Design of

1.7 Integrated

1.8 Site installation

1.9 Pre-assembled system

2 Health and safety

2.1 Introduction

2.2 Fire and Explosion Prevention

2.3 Toxic hazard protection

5 2.4 site safety

5 2.5 radiation risks

5 2.6 Safety Facilities

2.7 Manual closing means

2.8 Noise

2.9 Alarm indication

3 Analyzer protection

3.1 Introduction

3.2 Definition

3.3 Analyzer protection selection

3.4 Regional Classification and toxic hazard

Foreword

This standard was drafted in accordance with the rules of GB/T 1.1-2009 and GB/T 20000.2-2009 given.

This standard uses the translation method is equivalent to using IEC/T R61831.1999 "online analyzer system design and installation guide." Correspondence between the consistency of the standards of international documents and normative references of the following documents.

--- GB 12476 (all parts) combustible dust electrical equipment [IEC 61241 (all parts), IDT]

--- GB/T 18403 (all parts) performance of gas analyzers [IEC 61207 (all parts), IDT]

--- GB/T 19768-2005 process analyzer sample system performance indicates (IEC 61115:1992, IDT)

--- GB/T 20245 (all parts) performance of electrochemical analyzers [IEC 60746 (all parts), IDT] Functional safety --- GB/T 20438 (all parts), electrical/electronic/programmable electronic safety-related systems [IEC 61508 (all section Points), IDT]

--- GB 29812-2013 industrial process control cabin safety analysis (IEC 61285:2004, IDT) for ease of use, this standard made the following editorial changes.

--- With the "References" instead of "Appendix K";

--- Rearrange the order of the equation of the comments;

--- Standard and normative literature references cited in the informative annex to organize references.

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

The standard proposed by China Machinery Industry Federation.

The standard measurement and control of the instruments Standardization Technical Committee Technical Committee (SAC/TC124/by the National Industrial Process SC6) centralized.

Limited Shanghai Measurement and Testing Technology Research Institute, Beijing North sub-Mai Hake Analytical Instruments Co., Ltd., Shanghai Precision & Scientific Instrument Co., Ltd., Focused Photonics (Hangzhou) Co., Ltd., Nanjing Analytical Instrument Factory Co., Ltd., Beijing Analytical Instrument Institute.

Introduction

Although the technical performance analyzer and sample systems, and related security and other aspects have a wide variety of criteria, but in the whole Lack of design and installation of online analyzer system corresponding guidance, the standard developed precisely for this purpose.

Although the practical application of user online Analyzer is different, but the basic methods

and approaches are similar. Therefore, this standard is conducive to work Industry standardization, reduce design and operational costs, and improve security.

The term refers to throughout the text analyzer various online Analyzer. Process Analyst, mass analyzer, process quality and quality measurement instruments Monitor.

The reference to European standards or international standards, should also comply with the requirements of relevant laws and regulations.

Online Analyzer System Design and Installation Guide

1.1 Scope

This standard applies to the online analyzer system, directed by the online analyzer system suppliers and users to establish or design process from sampling to the terminal Output display or control a complete analyzer system.

1.2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 3836.14-2000 Electrical apparatus for explosive gas atmospheres - Part 14. Classification of hazardous areas (IEC 60079-10.

1995, IDT)

GB 3836.15-2000 Electrical apparatus for explosive gas atmospheres - Part 15. Electrical installations in hazardous locations (except coal mines) (Eqv, IEC 60079-14:1996) GB

3836.17-2007 Electrical apparatus for explosive gas atmospheres - Part 17. Construction and use of rooms or buildings of positive pressure (IEC 60079-13. 1982, IDT) GB

4208-2008 housing protection (IP Code) (IEC 60529:2001, IDT) GB/T 27867-2011 petroleum liquids pipeline automatic sampling method (ISO 3171:1998, IDT) IEC

60079-1:2007 for explosive gas atmospheres - Part 1. the flameproof enclosure "d" protection device (Electricalapparatus forexplosivegasatmospheres-Part 1.

Flameproofenclosure "d") IEC 60079-2:2001 Electrical apparatus for explosive gas atmospheres Part 2. Pressurized enclosures type "p" (Electricalapparatus forexplosivegasatmospheres-Part 2. Pressurizedenclosures "p") IEC 60079-11:2005

Explosive atmospheres - Part 11. the intrinsically safe "i" protection device (Electricalappa-ratusforexplosivegasatmospheres-Part 11. Intrinsicsafety "i") IEC

60079-15:2000 Electrical apparatus for explosive gas atmospheres - Part 15. Hazardous areas electrical installation (other than mines)

(Electricalapparatusforexplosivegasatmospheres-Part 15. Electricalinstalationinhazardousareas (Otherthanmines) IEC 60746 (all parts) performance

of electrochemical analyzers (Expression of performance of electrochemical analyzers) IEC 61115 process analyzer sample system performance representation (Expression of performance of sample handling systems for process analyzers) IEC 61207 performance of gas analyzers (Expression of performance of gas analyzers) IEC 61241 (all parts) of combustible dust Electrical Equipment (Electrical apparatus for use in the presence of combustible dust) IEC 61285 industrial process control analysis cabin safety requirements (Industrial process control - Safety of analyzer houses) IEC 61508 (all parts), Functional safety of electrical/electronic/programmable electronic safety-related systems (Functional safety of