

ICS 25.040

CCS N 10



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

GB/T 33537.3-2017

**Industrial communication networks -- Fieldbus specifications --
Type 23: CC-Link IE specification -- Part 3: CC-Link IE
communication profile**

Issued on: February 28, 2017

Implemented on: September 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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Foreword

GB/T 33537 "Industrial Communication Network Fieldbus Specification Type 23. CC-LinkIE Specification" is divided into the following three parts.

Part 1. Application layer service definition;

Part 2. Application layer protocol specification;

Part 3. CC-LinkIE Communication Profile.

This part is Part 3 of GB/T 33537.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the re-drafting method to modify IEC 61784-2..2014 "Industrial Communication Network Regulations Part 2. Based on

ISO /IEC 8802-3 real-time network attached field bus profile ".

The technical differences between this section and IEC 61784-2..2014 are as follows.

--- on the normative reference documents, this part has made a technical differences in the adjustment to meet China's technical conditions, adjust the situation

The situation is reflected in Chapter 2, "Normative references", as follows.

* Delete files that are not referenced in this section in Chapter 2, "Normative references";

Replace ISO /IEC 8802-3..2000 with GB/T 15629.3-2014 with international standard modification;

--- delete the "3.1 terms and definitions" in this part of the definition of the term is not used, and marked "CC-LinkIE not used, but keep the

Number "to correspond to IEC 61784-2..2014 terms;

--- remove the "3.3 symbol", Chapter 7 to Chapter 19, Appendix A, only to retain the CC-LinkIE communication profile related content, Chapter 20 for

For the seventh chapter, after the chapter number to change.

This section makes the following editorial changes.

--- In line with existing standard series, change the standard name to "Industrial Communication Network Fieldbus Specification Type 23. CC-Link IE Specification Part 3. CC-Link IE Communication Profile".

This part is made by the China Machinery Industry Federation.

This part is headed by the National Industrial Process Measurement Control and Automation Standardization Technical Committee (SAC/TC124).

This part of the drafting unit. Machinery Industry Instrument Integrated Technology and Economic Research Institute, Dongfeng Design and Research Institute Co., Ltd., Shanghai Automation

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Introduction

This section provides additional communication profiles (CPs) for existing CC-Link communication profiles (CPF). These regulations are in line with industrial automation

(Real-Time Ethernet, RTE) communication network with GB/T 15629.3 (commonly referred to as Ethernet)

Save These RTE communication networks use the provisions of GB/T 15629.3 for the bottom of the communication stack and provide more predictable, reliable real-time

Data transmission and support the precise synchronization of automated equipment.

In particular, these profiles help to correctly state the consistency of the RTE communication network with GB/T 15629.3 and help to avoid

Is now deviated from the original intention to achieve.

Application of Ethernet technology to industrial communication between controllers, and even communication between controllers and field devices,

Network technology in the field area of use. If this availability results in the following characteristics of the industrial automation communication network in the field area

Loss is unacceptable, these features include.

---real-time;

- a synchronized action between a field device (for example, a drive);

--- very small data records of the effective, frequent exchange.

These new RTE profiles can take full advantage of the Ethernet network in terms of transmission bandwidth and network improvements.

Another implicit and important requirement is to completely preserve the typical communication capabilities of Ethernet (as used in the office)

Continue to use the software involved.

The market requires a variety of network solutions, each with different performance characteristics and functional capabilities to meet a variety of application requirements.

RTE performance metrics (see Chapter 5) enable users to match network performance requirements with RTE networks.

The value is provided by the RTE device based on the communication profile specified in this section.

5.1 specifies the basic principles necessary to express the performance requirements of a CP for RTE performance. 5.2 Describe the application requirements

The consideration. You can use an application-dependent class to find an appropriate CP. Chapter 4 explains how to declare a device with

CPF or CP consistency.

Industrial Communication Network Fieldbus Specification

Type 23. CC-LinkIE specification

Part 3. CC-LinkIE communication profiles

1 Scope

This section specifies.

--- support for real-time Ethernet (RTE) requirements of the classification of performance indicators;

--- Based on GB/T 15629.3-2014, IEC 61158 series and IEC 61784-1..2014 regulations and related network components;

--- RTE solution capable of running in parallel with applications based on GB/T 15629.3-2014.

These communication profiles are called real-time Ethernet (RTE) communication profiles.

Note. The RTE communication profile uses the GB/T 15629.3-2014 communication network and its associated network components or GB/T 25931 and adds these criteria to

Get the RTE feature.

2 normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article

Pieces. For undated references, the latest edition (including all modifications) applies to this document.

Note. All parts of the IEC 61158 series, including IEC 61784-1 and IEC 61784-2, are also subject to standard maintenance. Therefore, the text on these files

Cross reference refers to the date in this normative reference.

GB/T 15629.3-2014 Information processing systems - Local area networks - Part 3. Carrier Sense Multiple Access with Collision Detection (CS-

MA/CD) access method and physical layer specification (ISO /IEC 8802-3..2000, MOD)

GB/T 33537.1-2017 Industrial communication network Fieldbus specification Type 23. CC-LinkIE specification Part 1.

Definition of Layer Service (IEC 61158-5-23..2014, IDT)

GB/T 33537.2-2017 Industrial communication network Fieldbus specification Type 23. CC-LinkIE specification Part 2.

Layer protocol specification (IEC 61158-6-23..2014, IDT)

Information technology - Vocabulary - Part 16. Information theory (Information technology - Vo - ISO 2382-16.

cabulary-Part 16. Informationtheory

IEC 61158 (all parts) Industrial Communication Network Fieldbus specification (Industrialcommunicationnetworks-

Fieldbusspecifications

IEC 61158-6-10..2014 Industrial communication networks - Fieldbus specifications - Part 6-10. Application layer protocol specification type 10