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CCS N 10



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

GB/T 29910.1-2013

**Industrial communication networks -- Fieldbus specifications --
Type 20 HART specification -- Part 1: HART wired network
physical layer service definition and protocol specification**

工业通信网络 现场总线规范 类型20：HART规范 第1部分：HART有线网络物理层
服务定义和协议规范

(English Translation)

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Foreword

GB/T 29910 "Industrial communication networks - Fieldbus specifications - Type 20. HART specification" is divided into the following six sections.

--- Part 1. HART wired network physical layer service definition and protocol specification;

Part --- Article 2. HART wired network data link layer service definition and protocol specification;

--- Part 3. Application layer service definition;

--- Part 4. Application layer protocol specification;

Part --- Article 5. WirelessHART wireless communication network and communication profile;

--- Part 6. Application layer protocol specification definitions and additional services.

This section GB/T Part of 129,910.

This section drafted in accordance with GB/T 1.1-2009 given rules.

The partial modification of the use of HART Communication Foundation (HCF) technical documentation HCF_SPEC-710 "Industrial communication networks through wired Letter Network HART. HARTFSK, DLL and APL complement "physical layer service definition and protocol specification, the technical content of the original English document no differences in the structure of the text layout appropriately adjusted.

This part is proposed by China Machinery Industry Federation.

This part of the measurement and control of Standardization Technical Committee (SAC/TC124) is administered by the National industrial processes.

This section is drafted. Machinery Industrial Instrumentation Technology and Economy Institute, HART Communication Foundation, Chinese Academy of Sciences since Automation Research Institute, Shanghai Automation Instrumentation Co., Southwest University, Shanghai Institute of Industrial Automation Instrumentation, Systems Engineering Beijing and Belgium Cheng Co., Ltd., Beijing Science and Technology Co., Austin, Fujian on the Run Precision Instrument Co., Ltd., China Instrument Industry Association, Shanghai Han was heavenly networking Technology Co., Ltd., Chongqing Institute of Industrial Automation Instrumentation, double Group (Deyang) Heavy Equipment Co., Ltd.

1 Scope

This section GB/T 29910 specifies the IEC 61158 Fieldbus type 20 (HART) physical layer service definition and protocol compliance Fan, the OSI Basic Reference Model (GB/T 9387.1) consistent. This section defines the rules for wired HART physical layer entity shall be performed and Procedures and equipment at the physical layer interoperability required components, media, and network configuration requirements.

This section applies to a reliable communication between devices in the automation environment.

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/T 9387.1 Information technology - Open Systems Interconnection - Basic Reference Model - Part 1. Basic model (GB/T 9387.1-1998, ISO/IEC 7498-1:1994, IDT) GB/T 17967 Information technology - Open Systems Interconnection - Basic Reference Model OSI service definition conventions (GB/T 17967-2000ISO /IEC 10731:1994, IDT)

3 Terms and definitions, symbols, abbreviations, conventions

Terms and Definitions 3.1 Reference Model this section GB/T 9387.1 based on the concept, and uses the following terms defined therein.

DL-entity (N = 2) DL Entity (N = 2) [GB/T 9387.1] DLprotocol-data-unit DL protocol data units [GB/T 9387.1] DLservice-data-unit DL service data units [GB/T 9387.1] DLSuser-data DLS user data [GB/T 9387.1] PhL-entity (N = 1) PhL entity (N = 1) [GB/T 9387.1] PhLprotocol-data-unit PhL PDU [GB/T 9387.1] PhLservice-data-unit PhL service data units [GB/T 9387.1] PhSuser-data PhS user data [GB/T 9387.1]

3.2 Specific terms and definitions

The following terms and definitions apply to this document.

3.2.1

Analog controller analogcontroller Use the controller only 4mA ~ 20mA current signal, to meet the current input device or output device all current requirements.