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

GB/T 11828.4-2025

Replacing GB/T 11828.4-2011

**Instruments for stage measurement - Part 4: Ultrasonic stage
recorder**

水位测量仪器 第4部分：超声波水位计

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1.Structure and drafting rules for standardization documents" Drafting. This document is Part 4 of GB/T 11828 Water Level Measuring Instruments. GB/T 11828 has been published in the following parts.

- 1.Float type water level gauge;
- 2.Pressure water level gauge;
- 3.Groundwater level meter;
- 4.Ultrasonic water level gauge;
- 5.Electronic water gauge;

6.Remote water level gauge. This document replaces GB/T 1828.4-2011 "Water level measuring instruments Part

4.Ultrasonic water level gauges" and GB/T 1828.4- Compared with.2011, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Added the definition of blind area and emission angle (see
- The structural composition of the ultrasonic water level meter has been refined (see 4.2, 4.2 of the.2011 edition);
- Changed the accuracy requirements and classified them (see 5.4, 5.2.4 of the.2011 edition);

1 Scope

GB/T 11828.4-2025 is the Chinese national standard on instruments for stage measurement - part 4: ultrasonic stage recorder, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 February 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 September 2025. Classification: ICS 07.060, CCS N93. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the product classification, composition, technical requirements, inspection rules, marking and instruction manual of ultrasonic water level meters. Test method. This document is applicable to ultrasonic water level meters used to measure water levels in rivers, lakes, reservoirs, channels and other water bodies.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 4208 Enclosure protection grade (IP code)

GB/T 9359-2016 Basic environmental test conditions and methods for hydrological instruments

GB/T 9969 General principles for instructions for use of industrial products

GB/T 17626.5-2019 Electromagnetic compatibility test and measurement technology surge (impact) immunity test

GB/T 17626.8-2006 Electromagnetic compatibility test and measurement technology Power frequency field magnetic field immunity test

GB/T 18185 Technical requirements for reliability of hydrological instruments

GB/T 50095-2014 Basic hydrological terms and symbols

3 Terms and definitions

The terms and definitions defined in GB/T 50095-2014 and the following apply to this document.

3.1 Ultrasonic water level meter ultrasonic stage recorder The ultrasonic transducer is installed at a known height underwater or above water, and the sound pulse emitted by the transducer is recorded. An instrument that calculates the water level being measured by the shortest round-trip propagation time between the water surface and the speed of sound wave propagation. [Source: GB/T 50095-2014, 11.4.2.4]

3.2 Ultrasonic stage recorder with air medium The ultrasonic transducer is installed above the water surface, and the ultrasonic water level meter uses air as the ultrasonic propagation medium. [Source: GB/T 50095-2014, 11.4.2.4(1)]

3.3 Ultrasonic stage recorder with water medium The ultrasonic transducer is installed below the water surface, and the ultrasonic water level meter uses water as the ultrasonic propagation medium.

3.4 Acoustic path The area effectively covered when ultrasonic waves propagate directionally in a medium.