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JJF 1784-2019

Program of Pattern Evaluation for Total Stations

全站仪型式评价大纲

(English Translation)

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Appendix A Original Record Format of Total Station Type Evaluation Test (41)

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Introduction

This outline is based on JJF 1016-2014 "Guidelines for the Compilation of Outlines for Measuring Apparatus Type Evaluation" and JJF 1015-2014 Compilation of the requirements of the "General Specification for Type Evaluation of Measuring Instruments".

This outline mainly refers to JJG100-2003 "Total Station Electronic Speed Tester" in the test items and test procedures and JJG703-2003 "photoelectric rangefinder" related regulations.

This outline is published for the first time.

Total station type evaluation outline

1 Scope

This type evaluation program is applicable to the type evaluation of domestic and imported total stations with various accuracy levels.

2 Reference documents JJF 1069 Assessment Standards for Legal Metrology Verification Institutions GB/T 2423.4-2008 Environmental testing for electrical and electronic products. Part 2: Test method test Db.

Alternating damp heat (12h 12h cycle) GB/T 2423.10-2019 Environmental Test Part 2: Test Method Test Fc. Vibration (Sinusoidal) GB/T 4208-2017 enclosure protection level (IP code) GB/T 17626.2-2018 Electromagnetic Compatibility Test and Measurement Technology Electrostatic Discharge Immunity Test GB/T 17626.3-2016 Electromagnetic compatibility test and measurement technology RF electromagnetic field immunity test GB/T 25480-2010 Basic environmental conditions and test methods for transportation and storage of instruments and meters JB/T 9328-1999 Resolution board for dated reference documents, only the dated version applies to this outline; for those without date references the latest version (including all amendments) is applicable to this outline.

3 Overview

The total station is a kind of automatic and digital three-way instrument with functions of distance measurement, angle measurement, calculation and data recording and

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transmission.

Dimensional coordinate measurement and positioning system. It consists of photoelectric distance measuring unit, electronic angle measuring unit, microprocessor unit and electronic recording unit Composition is a widely used in control survey, topographic survey, cadastral and real estate survey, industrial survey and offshore positioning Electronic measuring instruments.

The accuracy level of the total station is divided into four levels according to the angle measurement and the distance measurement, expressed by Qbeta, d (the subscript beta is the angle measurement level, the subscript d is the ranging level. Such as QI, II, it means that the angle measurement of the total station is I, and the distance measurement is II).

The accuracy level of the angle measuring part of the total station is divided into four levels according to the nominal standard deviation mbeta of the horizontal direction of the first measurement. all the accuracy level of the distance measuring part of the station instrument is divided into four levels according to the nominal distance standard deviation md.

The expression of the standard deviation of the nominal distance of the total station is.

md=ab·D

In the formula.

a---Fixed part of the standard deviation of nominal distance measurement, mm;

b---Proportional coefficient of nominal deviation standard deviation, mm/km;

D---Measure distance, km.

See Table 1 for the division of the accuracy level of the total station.

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