

ICS 25.16.30

CCS J 64



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

GB/T 32514.2-2016

**Resistance welding -- Welding current measurement for
resistance welding -- Part 2: Welding current meter with current
sensing coil**

电阻焊 焊接电流的测量 第2部分：带电流感应线圈的焊接电流测量仪

(English Translation)

Issued on: February 24, 2016

Implemented on: September 1, 2016

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

Table of Contents

Preface
1 Scope
2 Normative reference document
3 Terms and definitions
4 Environmental conditions
5 Classification and marking of welding current measuring instrument (with current induction coil)
5.1 Classification of welding current measuring instrument with current induction coil
5.2 Product identification
6 Requirements for welding current measuring instrument with current induction coil
6.1 Welding current measuring instrument
6.2 Current sensing coil
6.3 Welding current measuring instrument with current induction coil
6.4 Integrator
6.5 Data processing unit
6.6 Display unit and output port
6.7 Soldering current shortest and longest duration
6.8 Maximum measuring current
6.9 Minimum measuring current
6.10 Phase control current
6.11 Minimum time for current measurement
6.12 Input voltage fluctuation
6.13 Mechanical strength of current sensing coil
6.14 Positioning error of current sensing coil
6.15 Influence of Ambient Temperature
6.16 Test
7 Test procedure
7.1 Maximum measuring current
7.2 Minimum measuring current
7.3 Phase shift control current
7.4 Minimum current measurement time
7.5 Power supply voltage fluctuation

7.6 Thermal performance test

8 Mark

Appendix A (normative) shows the definition of the measurement time and the display current value

Appendix B (informative) The setting of the current sensing coil and the structure of the welding current measuring instrument

Foreword

GB/T 32514 "resistance welding current measurement" is divided into five parts.

- Part 1. Measurement guidelines;

Part 2. welding current measuring instrument with current sensing coil;

Part 3. Current sensing coils;

- Part 4. Calibration system;

Part 5. Confirmation of welding current measurement systems.

This part is part 2 of GB/T 32514.

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

This part uses the translation method equivalent to ISO 17657-2:2005 "Resistance welding current measurement Part 2. with current sensing Coil welding current measuring instrument".

And the normative reference in this standard international documents are consistent with the relationship between China's documents are as follows.

Mechanical and electrical requirements for solder resist welding machines (ISO 669.:2000, MOD) GB/T this part is made by China Electrical Equipment Industry Association.

This part of the National Welding Technology Standardization Technical Committee (SAC/TC70) centralized.

This part of the drafting unit. Chengdu Sanfang Electric Co., Ltd., Tianjin seven high-tech Co., Ltd., Zhejiang Ken was Electrical Co., Ltd., Tian Tian Miaji Trade (Shanghai) Co., Ltd., Shenzhen Peng Yu Wei Technology Co., Ltd., Guangzhou Songxing Electric Co., Ltd.

1 Scope

This part of GB/T 32514 specifies the welding time and welding for measuring single phase AC (50Hz or 60Hz) and DC resistance welding.

The current value of the current, with the current induction coil welding current measuring

instrument requirements.

This section applies to a welding current measurement system with a display or a calibrated output port (which can be connected to a welding controller).

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

GB/T 32514.1-2016 Resistance welding current measurement - Part 1. Measurement guide (ISO 17657-1.:2005, IDT) GB/T 32514.3-2016 Resistance welding current measurement - Part 3. Current sensing coils (ISO 17657-3.:2005, IDT) GB/T 32514.4-2016 Resistance welding current measurement - Part 4. Calibration system (ISO 17657-4.:2005, IDT) ISO 669 resistance welding resistance machine mechanical and electrical requirements (Resistance welding-Resistance welding equipment-mechanical and electrical requirements)

3 Terms and definitions

ISO 669 and the following terms and definitions apply to this document.

Minimum measurement time the minimum settable value of the measurement time.

See Figure A.1.

Maximum measurement time the maximum settable value of the measurement time depends on the type of component of the welding current meter.

See Figure A.1.

The measured measurement time is indicated by measuring time the duration of the welding current from start to finish.

Note: Normally, the start and end times used to measure the current are set automatically. If the start time is set to zero or a value greater than zero, the end time is set at a value less than the welding time (see Figure A.1), the welding current is calculated by the measurement between the start time and the end time.

Automatic zero correction. Automatic zero level correction when measuring DC welding current, the effect of correcting the output zero drift on the device is allowed.