
**Traditional Chinese medicine — Pulse
graph force transducer**

Médecine traditionnelle chinoise — Transducteur d'intensité du pouls

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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Traditional Chinese medicine — Pulse graph force transducer

1 Scope

This document specifies the technical requirements, classification and test method for a pulse graph force transducer, hereafter referred to as transducer.

It only applies to pulse graph acquisition over the patient's radial artery based on TCM pulse condition requirements.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10993-1, *Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process*

IEC 60068-2-6, *Environmental testing — Part 2-6: Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14, *Environmental testing — Part 2-14: Tests — Test N: Change of temperature*

IEC 60068-2-27, *Environmental testing — Part 2-27: Tests — Test Ea and guidance: Shock*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

pulse graph force transducer

transducer that can detect pulsation of the radial artery and its peripheral tissues as a mechanical quantity and convert it into an electrical signal output according to a certain pattern for the purpose of TCM pulse condition acquisition

Note 1 to entry: Transducers involved in this document only refer to pressure or force transducers.

3.2

calibration

process of recording input/output data through applied standard mechanical quantities to determine the performance of transducers

Note 1 to entry: The calibration unit of transducers may be the unit of either pressure or force.

3.3 radial artery pulse graph pulse graph

electrical signal waveform converted from peripheral vascular pulsation at the radial artery, expressed in time-amplitude coordinates, hereafter referred to as pulse graph

3.4 effective plane

plane of transducers with the sensitivity during radial artery pulsation acquisition

Note 1 to entry: See [Figure 1](#).

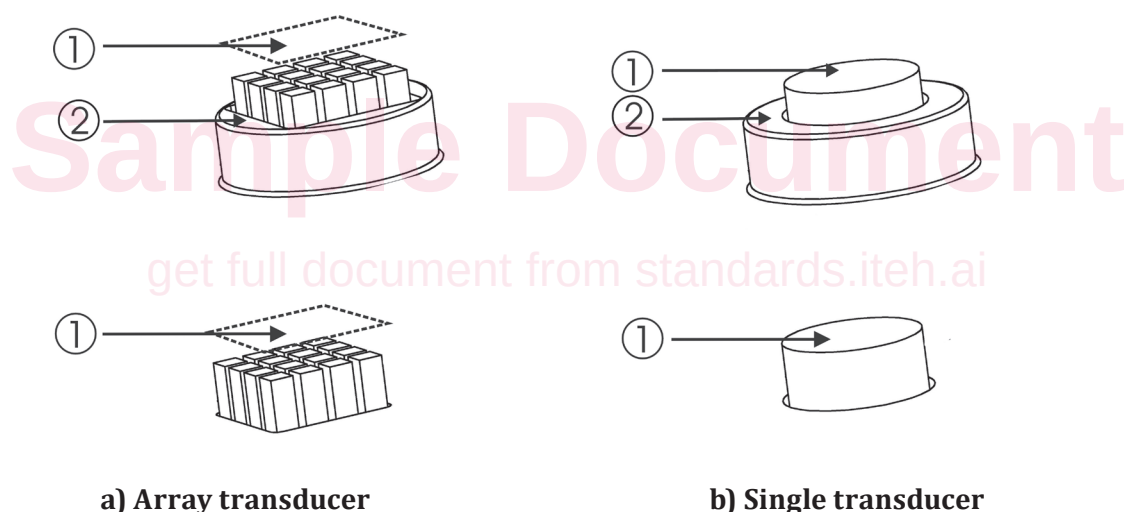
3.5 auxiliary plane

plane with no sensitivity and lower than the *effective plane* ([3.4](#)) of transducers

Note 1 to entry: See [Figure 1](#).

3.6 applied plane

contact plane of transducers with patients during pulse graph acquisition, including the *effective plane* ([3.4](#)) and *auxiliary plane* ([3.5](#))



Key

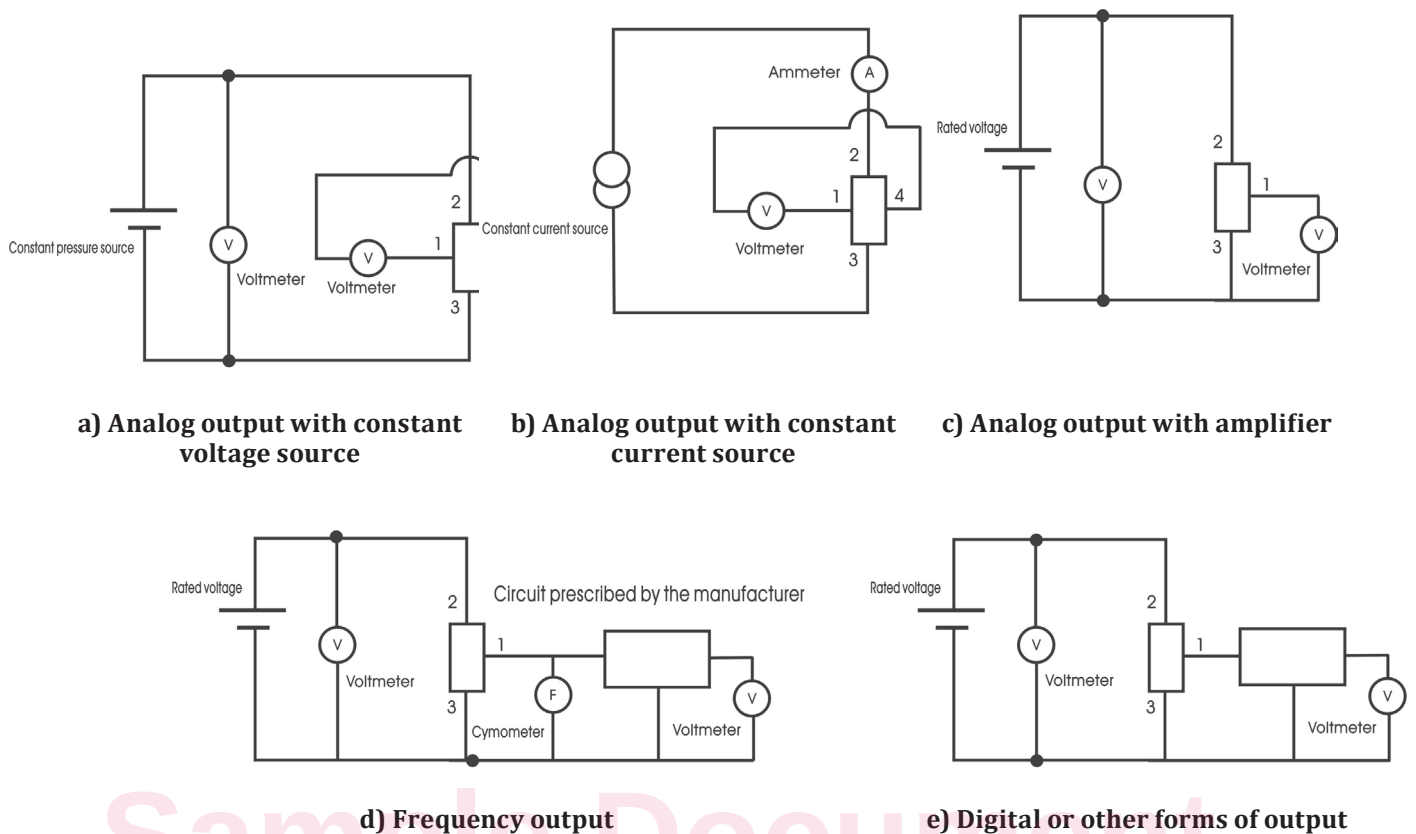
- 1 effective plane
- 2 auxiliary plane

Figure 1 — Effective plane, auxiliary plane of transducers

3.7 output quantity

electrical signal quantity produced by a transducer, which is a function of a measurand

Note 1 to entry: See [Figure 2](#).

**Key**

- 1 output+
- 2 input+
- 3 input-
- 4 output-

NOTE 1 The output format includes analog output (e.g. a continuous function of a measurand such as changes in voltage amplitude, voltage ratio, and capacitance) which can be classified into amplified and unamplified.

NOTE 2 Frequency output (i.e. the number of cycles or pulses per second as a function of a measurand) and frequency-modulated output (i.e. frequency deviation from a centre frequency) are also forms of analog output.

NOTE 3 Another output format is digital output which represents a measurand in the form of discrete quantities coded in a system of notation (e.g. binary code).

Figure 2 — Different transducers

3.8

resistive bridge transducer

transducer receiving *excitation* (3.11) from alternating or direct electrical energy, the output of which is directly proportional to the product of the applied mechanical quantities and excitation

3.9

static signal

electrical signal transferred from the applied force

Note 1 to entry: See [Figure 3](#).