

TECHNICAL REPORT



**Wearable electronic devices and technologies –
Part 250-1: Electronic textile – Snap fastener connectors between e-textiles and
detachable electronic devices**





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

WEARABLE ELECTRONIC DEVICES AND TECHNOLOGIES –**Part 250-1: Electronic textile – Snap fastener connectors
between e-textiles and detachable electronic devices**

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Draft	Report on voting
124/119/DTR	124/143/RVDTR

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Report is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 63203 series, published under the general title *Wearable electronic devices and technologies*, can be found on the IEC website.

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INTRODUCTION

E-textiles are suitable for measuring biological signals such as electrocardiograms, electromyograms and respiratory rates in everyday life without discomfort. The e-textile is interwoven or coated with an electric material for sensing the body surface potential in order to measure biological signals. To measure these biological signals, a detachable electronic device is connected to measure the body surface potential from the e-textile.

However, there is no established standard on the method for connecting the detachable electronic device to the e-textile. In view of the above circumstances and in order to standardize connection interface issues, it is necessary to investigate the connector types between e-textile and the detachable electronic device.

To date, conductive snap fasteners have been the most commonly applied as connectors for e-textiles.

This document reviews conductive snap fastener connectors and gives some guidance for future standardization work as regards connectors for e-textiles.

WEARABLE ELECTRONIC DEVICES AND TECHNOLOGIES –

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1 Scope

This document reviews the use cases of conductive snap fasteners applied as electrical connectors for e-textile products available on the market and provides guidance on future standardization works.

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.

There are no normative references in this document.

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

snap fastener

device for attaching one material to another consisting of matching male (stud) and female (socket) parts, each of which is attached to a separate material so that the parts can be joined by an appropriate force and separated by a sufficient perpendicular tensile force

3.2

stud

male functional part of a snap fastener which engages with, or snaps into, the mouth of the socket to form a closure of two parts of the item, or garment on which the fastener is used

3.3

socket

female functional part of the fastener which engages with the stud part of the fastener to form the closure of two parts of the item on which the fastener is used

4 Classification of devices by connector type

4.1 General

Snap fasteners may be used for connecting detachable electronic devices to e-textile products.