IPC-HERMES-9852
Version 1.6

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The Global Standard for Machine-to-Machine Communication in SMT Assembly

If a conflict occurs between the English language and translated versions of this document, the English version will take precedence.

Developed by The Hermes Standard Initiative and the IPC-HERMES-9852 Standard Task Group (2-17b) of the Electronic Product Data Description Committee (2-10) of IPC

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1 SCOPE

The aim of this specification is to create a state-of-the-art communication protocol for handling board transfers and associated data at surface-mount technology (SMT) production lines. Therefore, this new communication protocol has to cope with the following:

- Replace the electrical SMEMA interface as specified in IPC-SMEMA-9851

- Extend the interface to communicate:

  - Unique identifiers for the handled printed circuit boards (PCBs)

  - Equipment identifiers of the first machine noticing a PCB

  - Barcodes

  - Conveyor speed and intended board route

  - A lightweight digital twin of the product containing, e.g.,

    - Product type identifier

    - Length

    - Width

    - Thickness

    - Board state

With respect to version numbers The Hermes Standard adheres to the rules of Semantic Versioning 2.0.0 [SemVer_2.0.0].

Hints on naming:

- Wherever a feature is described by the word **"shall"** it is mandatory.

- The word "machine" is used for any equipment which can be found in a SMT production line (e.g., printers, placement machines, ovens, AOIs, transport modules, shuttles, stackers).

- The term "PCB" may also refer to carriers transporting PCBs.

- The word "Hermes" is used as abbreviation for "The Hermes Standard".

- "The Hermes Standard" and IPC-HERMES-9852 are synonyms for the standard specified in this document and might be used interchangeably.