TECHNO OFFER

CODIBI: electronic security key

security / code / encryption / coding / confidentiality / electronic circuit

CONTEXT

In traditional electronic comparators, the reference code is extracted from the memory to be injected into a logic circuit and compared to the user input. There is a security flaw here since a malicious user has the possibility to read the reference or send a false reference to the comparator.

DESCRIPTION

The invention consists of an electronic comparator system in which the code is recorded in the comparator directly. This avoids "taking" the code out of a memory in digital form and thus ensures increased confidentiality.
The comparator system uses the Extraordinary Hall Effect (EHE) and magnetic materials whose signal cannot be picked up or modified remotely.

COMPETITIVE ADVANTAGES

- **Circuit-specific binary code**
- **It does not require access to an identification database**
- **Inviolable system: no one can read or delete data**
- **Thermally stable, no remanent magnetization, very low power consumption**
- **Low cost manufacturing and possible production on flexible substrate**
- **System achievable from nanometer to centimeter scale**

Markets & applications

Security - access control:

- It can be integrated into any device requiring access control by electronic circuit (computers, payment terminals, identity documents, smart cards, vehicles, etc.)
- Sensor data networks for the Factory of the Future (automaton locking, machine parameters locking...)

Development stage

Proof of concept at the laboratory level (TRL 4)

Research team

Jean Lamour Institute - CNRS / University of Lorraine

Intellectual property

European patent issued in France, Germany, Belgium, Netherlands (filed on January 20, 2014)

Target partnership

R&D collaboration and/or patent licensing

CONTACT-US

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