

ABSTRACT

Device for transforming a dataset with a secret key

The invention relates to a device for transforming a dataset with a secret key, wherein a query unit (1) is connected via a bidirectional communication interface
5 (2) to a transformation unit (3), which has a memory (4) for the secret key and a processor (5) for transforming the dataset. In order to create a device of this kind, which allows reliable and secure execution of digital transactions, the invention proposes that the query unit (1) has a plurality of optical transmitters for transmitting in parallel codewords of the dataset translated into two-dimensional
10 codewords to a plurality of optical receivers of the transformation unit (3), and the transformation unit (3) has a plurality of optical transmitters for transmitting in parallel codewords of the transformed dataset translated into two-dimensional codewords to a plurality of optical receivers of the query unit (1), the transmitters and receivers of a unit being arranged each in a two-dimensional grid and
15 opposite and at a distance from the receivers and transmitters of the other unit.

Figure 1