Claims

1. A method of establishing a data audit trail (10) for meter data (30, 40) of a meter (2), comprising the steps of:

   capturing (S1) a meter dataset (300, 400) comprising at least a first value (31, 41) and a second value (32, 42);

   signing (S2) the meter dataset (300, 400) with a first digital signature (D1), and

   subsequently signing (S3) a next meter dataset (301, 401) and the first digital signature (D1) with a second digital signature (D2).

2. The method according to claim 1, further comprises the step of subsequently signing a further meter dataset (302, 402) and the second digital signature (D2) with a third digital signature (D3).

3. The method according to claim 1 or 2, further comprises the step of generating a hash value (300h, 301h, 302h; 400h, 401h, 402h) from the meter dataset (300, 301, 302; 400, 401, 402) before subsequently signing the meter dataset (300, 301, 302; 400, 401, 402).

4. The method according to one of the preceding claims, wherein the meter dataset (300, 301, 302) comprises a time stamp value (31).

5. The method according to one of the preceding claims, wherein the meter dataset (300, 301, 302) comprises at least one measurement value (32).

6. The method according to one of the preceding claims, wherein the meter dataset (400, 401, 402) comprises at least one event related value (41).

7. The method according to one of the preceding claims, further comprises the step of transmitting one or more signed meter datasets to an external device (3, 4, 5).

8. The method according to claim 7, wherein the transmitting is performed in intervals, the intervals being defined by time or an event.

9. The method according to one of the preceding claims, wherein each digital signature comprises a public key of the meter.

10. The method according to one of the preceding claims, further comprises the step of validating the signed meter data (30') by private key cryptography.

11. The method according to claim 10, further comprises the step of decrypting hash values of signed meter data.

12. A meter (2) configured to carry out the method according to at least one of claims 1 to 11.

13. A metering system (1) comprising at least one meter (2) according to claim 12 and/or at least one administration device (4, 5) configured to carry out the method of one of claims 1 to 11.

14. A computer program for establishing a data audit trail for metering data of a meter (2), comprising instructions which, when the computer program is executed by a meter (2) and/or an administration device (4, 5) in a metering system (1), cause the meter (2) and/or the administration device (4, 5) to carry out the steps of a method according to one of claims 1 to 11.

15. A computer-readable data carrier having stored thereon the computer program of claim 14.