

CLAIMS

We claim:

1. A method for validating a sensor assembly of a meter, comprising steps of:
receiving one or more sensor calibration values;
5 comparing the received sensor calibration values to one or more known
sensor calibration values; and
validating the sensor assembly if the one or more received sensor calibration
values are within a predetermined tolerance of the one or more known
sensor calibration values.
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2. The method of claim 1, further comprising a step of invalidating the sensor
assembly if the one or more received sensor calibration values exceed the known sensor
calibration values by more than the predetermined tolerance.
- 15 3. The method of claim 2, further comprising a step of preventing a meter
electronics of the meter in communication with the sensor assembly from operating with
the sensor assembly if the sensor assembly is invalid.
4. The method of claim 1, further comprising a step of identifying a sensor type of
20 the sensor assembly based on the comparison of the received sensor calibration values
and the known sensor calibration values.
5. The method of claim 4, further comprising a step of storing the identified sensor
type along with a sensor identifier.
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6. The method of claim 1, wherein one of the one or more received sensor
calibration values comprises a Flow Calibration Factor (FCF).
7. The method of claim 1, wherein one of the one or more received sensor
30 calibration values comprises a quiescent harmonic frequency (K1) value.

8. The method of claim 1, wherein the sensor assembly comprises a sensor component of a Coriolis flow meter.

9. A meter electronics (20) for a meter (5) including a sensor assembly (10), the meter electronics (20) including a processing system (203) configured to:

receive one or more sensor calibration values (215, 216);

compare the received sensor calibration values (215, 216) to one or more known sensor calibration values (213); and

validate the sensor assembly (10) if the one or more received sensor calibration values (215, 216) are within a predetermined tolerance of the one or more known sensor calibration values (213).

10. The meter electronics (20) of claim 9, wherein the processing system (203) is further configured to invalidate the sensor assembly (10) if the one or more received sensor calibration values (215, 216) exceed the known sensor calibration values (213) by more than the predetermined tolerance.

11. The meter electronics (20) of claim 10, wherein the processing system (203) is further configured to prevent the meter electronics (20) from operating with the sensor assembly (10) if the sensor assembly (10) is invalid.

12. The meter electronics (20) of claim 9, wherein the processing system (203) is further configured to identify a sensor type of the sensor assembly (10) based on the comparison of the received sensor calibration values (215, 216) and the known sensor calibration values (213).

13. The meter electronics (20) of claim 12, wherein the processing system (203) is further configured to store the identified sensor type (214) along with a sensor identifier.

14. The meter electronics (20) of claim 9, wherein one of the one or more received sensor calibration values comprises a Flow Calibration Factor (FCF).

15. The meter electronics (20) of claim 9, wherein one of the one or more received sensor calibration values comprises a quiescent harmonic frequency (K1) value.

16. The meter electronics (20) of claim 9, wherein the sensor assembly comprises a
5 sensor component of a Coriolis flow meter.

CLAIMS

We claim:

1. A method for validating a sensor assembly of a meter by determining whether the sensor assembly is one of at least one valid sensor type, the method comprising steps
5 of:
 - receiving one or more sensor calibration values;
 - comparing the received sensor calibration values to one or more known sensor calibration values;
 - validating the sensor assembly if the one or more received sensor calibration
10 values are within a predetermined tolerance of the one or more known sensor calibration values corresponding to one of the at least one valid sensor type;
 - invalidating the sensor assembly if the one or more received sensor calibration values exceed the known sensor calibration values by more
15 than the predetermined tolerance; and
 - preventing a meter electronics of the meter in communication with the sensor assembly from operating with the sensor assembly if the sensor assembly is invalid.
- 20 2. The method of claim 1, further comprising a step of identifying a sensor type of the sensor assembly based on the comparison of the received sensor calibration values and the known sensor calibration values.
3. The method of claim 2, further comprising a step of storing the identified sensor
25 type along with a sensor identifier.
4. The method of claim 1, wherein one of the one or more received sensor calibration values comprises a Flow Calibration Factor (FCF).
- 30 5. The method of claim 1, wherein one of the one or more received sensor calibration values comprises a quiescent harmonic frequency (K1) value.

6. The method of claim 1, wherein the sensor assembly comprises a sensor component of a Coriolis flow meter.

7. A meter electronics (20) for a meter (5) including a sensor assembly (10), the meter electronics (20) including a processing system (203) configured to:

receive one or more sensor calibration values (215, 216);

compare the received sensor calibration values (215, 216) to one or more known sensor calibration values (213), each known sensor calibration value corresponding to one of at least one valid sensor type;

validate that the sensor assembly (10) is one of the at least one valid sensor type by determining if the one or more received sensor calibration values (215, 216) are within a predetermined tolerance of the one or more known sensor calibration values (213) corresponding to the at least one valid sensor type;

invalidate the sensor assembly (10) if the one or more received sensor calibration values (215, 216) exceed the known sensor calibration values (213) by more than the predetermined tolerance; and

prevent the meter electronics (20) from operating with the sensor assembly (10) if the sensor assembly (10) is invalid.

8. The meter electronics (20) of claim 7, wherein the processing system (203) is further configured to identify a sensor type of the sensor assembly (10) based on the comparison of the received sensor calibration values (215, 216) and the known sensor calibration values (213).

9. The meter electronics (20) of claim 8, wherein the processing system (203) is further configured to store the identified sensor type (214) along with a sensor identifier.

10. The meter electronics (20) of claim 7, wherein one of the one or more received sensor calibration values comprises a Flow Calibration Factor (FCF).

11. The meter electronics (20) of claim 7, wherein one of the one or more received sensor calibration values comprises a quiescent harmonic frequency (K1) value.

12. The meter electronics (20) of claim 7, wherein the sensor assembly comprises a
5 sensor component of a Coriolis flow meter.