What is claimed is:

1. A method of automatically verifying accurate operation of a flowmeter during field operation comprising:

providing a flowmeter having a meter electronics comprising a storage system;

flowing a non-calibration process fluid through the flowmeter;

wherein the meter electronics are configured to perform the steps of:

detecting a model of the flowmeter;

retrieving a factory zero value from the storage system, wherein the factory zero value was determined during an initial factory calibration;

retrieving a stored zero drift specification from the storage system based on the model of flowmeter detected;

measuring a zero value during field operation of the flowmeter;

comparing the field operation zero value with the factory zero value;

calculating an error between the field operation zero value and the factory zero value;

determining whether the error between the field operation zero value and the factory zero value is within the zero drift specification; and

calibrating the flowmeter if the error is outside the zero drift specification.

2. The method of claim 1, further comprising the step of prompting a user to enter at least one operating condition value into meter electronics.

3. The method of claim 2, wherein the at least one operating condition comprises a pressure.

4. The method of claim 1, wherein the step of calibrating the flowmeter if the error is outside the zero drift specification further comprises the step of prompting a user to calibrate the flowmeter.

5. The method of claim 4, further comprising the step of prompting the user to zero the flowmeter.

6. The method of claim 4, wherein the step of prompting a user to calibrate the flowmeter comprises prompting the user to activate or deactivate a pressure compensation.

7. The method of claim 1, comprising the steps of:

determining whether the factory zero value is being used by the meter electronics;

wherein the step of comparing the field operation zero value with the factory zero value comprises comparing the field operation zero value to an updated zero value if the factory zero value is not being used by the meter electronics.

8. The method of claim 1, further comprising the step of meter electronics retrieving a pressure effect specification from the storage system.

9. The method of claim 1, further comprising the step of measuring a density of the non-calibration process fluid.

10. The method of claim 1, further comprising the step of measuring a flow rate of the non-calibration process fluid.

11. The method of claim 1, further comprising the step of measuring a temperature of the non-calibration process fluid.

12. A method of automatically verifying accurate operation of a flowmeter during field operation comprising:

providing a flowmeter having a meter electronics comprising a storage system;

flowing a non-calibration process fluid through the flowmeter;

wherein the meter electronics are configured to perform the steps of:

detecting a model of the flowmeter;

retrieving a stored gas specification from the storage system based on the model of flowmeter detected;

receiving a pressure value during field operation of the flowmeter;

comparing the received pressure value with the stored gas specification;

determining whether the difference between received pressure value and the stored gas specification is outside a predetermined threshold;

activating a pressure compensation if the difference between received pressure value and the stored gas specification is outside the predetermined threshold; and

deactivating the pressure compensation if the difference between received pressure value and the stored gas specification is within the predetermined threshold.

13. A flowmeter (5) comprising:

a sensor assembly (10) comprising at least one conduit (103A, 103B) vibratable by a driver (104);

pickoff sensors (105, 105') operable to detect vibrations of the at least one conduit (103A, 103B); and

a meter electronics (20) comprising a processing system (203) and a storage system (204) configured to:

retrieve a factory zero value from the storage system, wherein the factory zero value was determined during an initial factory calibration;

retrieve a stored zero drift specification from the storage system;

measure a zero value during field operation of the flowmeter;

compare the field operation zero value with the stored factory zero value;

determine whether an error between the field operation zero value and the factory zero value is within the zero drift specification; and

calibrate the flowmeter (5) if the error is outside the zero drift specification.

14. The flowmeter (5) of claim 13, wherein the meter electronics (20) is configured to prompt a user to calibrate the flowmeter if the error is greater than a predetermined value.

15. The flowmeter (5) of claim 13, wherein the meter electronics (20) is configured to prompt a user to enter at least one operating condition value into meter electronics

16. The flowmeter (5) of claims 13 or 14, wherein flowmeter calibration comprises zeroing the flowmeter.

17. The flowmeter (5) of claims 13 or 14, wherein flowmeter calibration comprises activating or deactivating a pressure compensation.