



PROCESS INSTRUMENTATION

SITRANS F M Verificator

Validates the performance of your electromagnetic flow meters on-site
usa.siemens.com/verificator

SIEMENS

Market leader for **continuous accuracy measurement**

Primary benefits and advantages

Siemens has manufactured high performance flowmeters for more than 35 years. Our products and services share the same goal: to improve your operations, reduce downtime, and maintain measurement accuracy for the life of the product.

The Verificator provides key benefits and the precision you need in your vital flow measurement:

- In-situ check of performance without interrupting the flowmeter installation
- Fully automated – no manual setup or data input – with predefined factory acceptance levels
- No expensive removal or installation costs
- Results in less than 15 minutes
- Full verification report

The Verificator confirms accurate performance for the following SITRANS F M transmitters and sensors:

- MAG 5000/6000 /FMT020
- MAG 1100 / FM120
- MAG 1100 F /FM120
- MAG 3100 / FM320
- MAG 3100 P
- MAG 5100 W /FM520

Accuracy from factory . . .

Each sensor is calibrated before leaving the factory and a calibration report is issued.

The sensor is verified and the magnetic properties (fingerprint) are identified.

Fingerprint data and calibration parameters are stored on the intelligent SENSORPROM memory unit.

Easy and reliable on-site verification

A fully automatic verification test takes only 15 minutes after connection and consists of three steps:

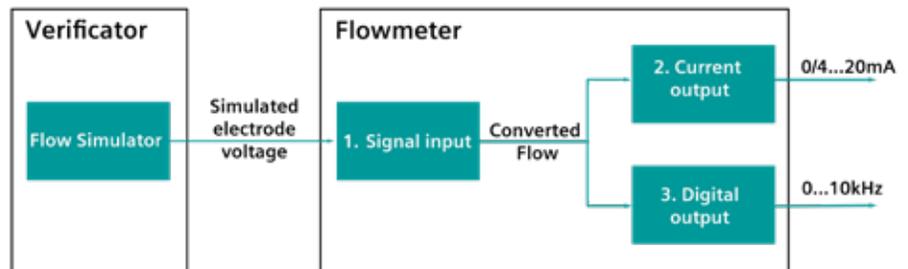
1. Transmitter test
2. Flowmeter insulation test
3. Sensor Magnetism test

The verification is carried out at the transmitter location. The test is not affected by liquid flow or cable length.

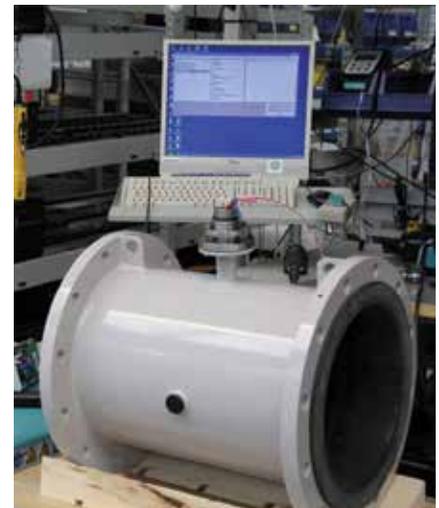
Transmitter test

Signal input : A reference flow is simulated in the Verificator, the transmitter measures this input as a real flow and gives a flow image on the UART output. The Verificator reads this value and compares it to the simulated flow. This test checks the transmitter front end signal processing (analog and digital) section.

TRN outputs : The current and frequency outputs are simulated by the transmitter and measured by the Verificator. This test checks the current and digital output of the transmitter



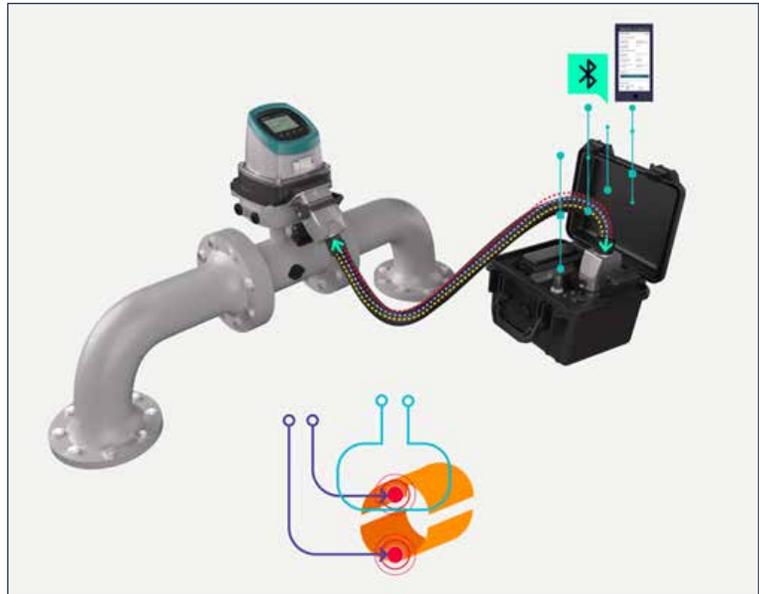
Verificator connection on the SITRANS F M flowmeter



Flowmeter insulation test

The verification test of the flowmeter insulation is a “cross- talk” test of the entire flowmeter and installation, which ensures that the flow signal generated in the sensor is not affected by any external influences. By generating dynamic disturbances close-coupled to the flow signal, the flowmeter is tested for noise immunity to a maximum level.

- EMC influence on the flow signal
- Moisture in sensor, connection and terminal box
- Non-conductive deposit coating the electrodes
- Missing or poor grounding, shielding and cable connection



Flowmeter insulation test

Sensor magnetism test

The sensor magnetism test ensures that the magnetic behavior is unchanged. The current sensor magnetism is compared with the “fingerprint” which was determined during initial calibration and stored in the SENSORPROM memory unit. This unique test is conducted without any interference or compensation of surrounding temperature or interconnecting cabling.

- Changes in dynamic magnetic behavior
- Magnetic influence inside and outside the sensor
- Missing or poor coil wire and cable connection



Sensor magnetism test

. . . to the work site.

The SITRANS F M Vericator can be used in:

1. New applications: approve new installations with certificate for handover
2. Existing applications: ensuring correct product quality and continuous accuracy

For ISO 9000 and ISO 17025 documentation a MAG Verification Certificate can be printed as handover from contractor to end user.



Measuring everything that matters:

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Siemens Process Instrumentation offers best-in-class measurement and seamless integration into your automation system. We are the total solution provider for flow, level, pressure, temperature, weighing, positioners and more.

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