



How do you know your  
flowmeter is accurate?

SITRANS F M Vericator validates the performance  
of your electromagnetic flowmeters on-site.

Answers for industry.

**SIEMENS**

# SITRANS F M Verificator:

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
- MAG 3100
- MAG 1100
- MAG 3100 P
- MAG 1100 F
- MAG 5100 W

## 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

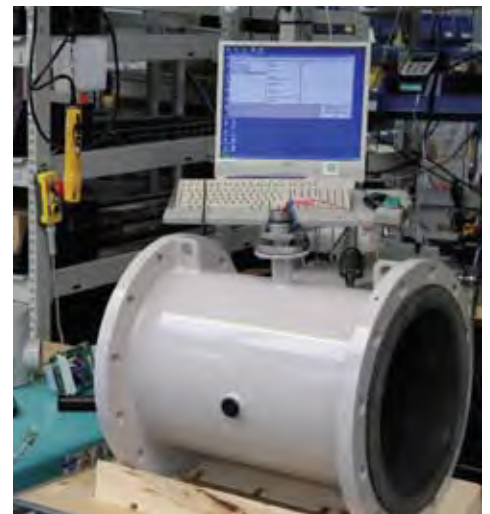
The transmitter verification checks the whole electronic system from signal input to output. Using a traceable calibrated precision network, the Verificator simulates flow signals to the transmitter input.

By measuring the transmitter outputs the Verificator calculates its accuracy against defined factory values.

- Signal function from signal input to output
- Signal processing – gain, offset, and linearity
- Test of analog and frequency output



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

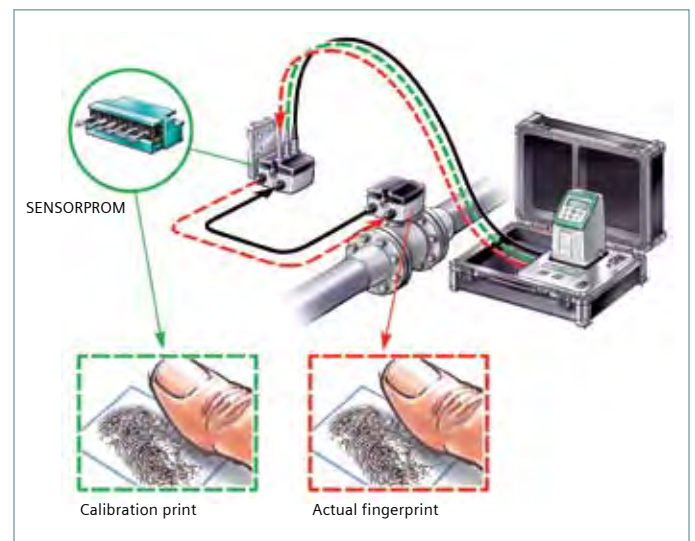


Flowmeter insulation test

### 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 14001 documentation a MAG Verification Certificate can be printed as handover from contractor to end user.



MAG Verification Certificate			
<b>Customer:</b>		<b>MAGLOC Identification:</b>	
Name	Flow Direction	Flow Direction	Flow Direction
Address	Flow Direction	Flow Direction	Flow Direction
City	Flow Direction	Flow Direction	Flow Direction
Phone	Flow Direction	Flow Direction	Flow Direction
E-mail	Flow Direction	Flow Direction	Flow Direction
<b>Results:</b>		<b>Results:</b>	
Velocity	Thermal	Actual	Deviation
0.00m/s	0.00m/s	0.00m/s	0.00m/s
1.00m/s	1.00m/s	1.00m/s	1.00m/s
2.00m/s	2.00m/s	2.00m/s	2.00m/s
3.00m/s	3.00m/s	3.00m/s	3.00m/s
<b>Comments:</b>		<b>Comments:</b>	
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## For more information

Find everything about Flow Instruments:  
[www.siemens.com/flow](http://www.siemens.com/flow)

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