Insacal®
The Conductivity Master Meter
For Fast and Easy Validation of In-Line Sensors
“Insacal provides us with an easy to use, fast and foremost flexible approach to validate the customers’ applications regardless of their set up. With no “background” programs to tamper with, results are transparent and well documented.”
Insacal®
The Conductivity Master Meter

Introduction
With the Insacal Conductivity Master Meter you will be able to validate your conductivity sensors in-line.
Insacal is primarily used in the pharmaceutical industry where there are high requirements for documentations of water purity. But it would also be useful in other industries like biotechnology or nuclear power. The Master Meter weighs only 4 kg and is easily transported to the location of your conductivity. The Insacal can be used for in-situ calibration in closed loop, saving you hours on total calibration time.

How it works
The calibration can be carried out in two ways either in an open beaker or in-situ to prevent risk of contamination of the Unit Under Test (UUT). In both cases the calibration is carried out by comparing the UUT to the Insacal Master Meter. The advantage is that the Master Meter can be used in a beaker in the laboratory and afterwards it can be used in a closed loop in the production.

Operation
Insacal was developed for the pharmaceutical industry. The casing is made from AISI 304 and is cleanable for cleanroom use according to industry standards. The Insacal is equipped with a flow fitting for the sensor to avoid influence from the surroundings when used for in-situ calibrations. All wetted parts are CIP (Cleaning-In-Place) and SIP-able (Steam-In-Place).

Service and Support
Maintenance is limited to a yearly calibration. Instrument user training can be facilitated at product delivery. If you choose to sign a service agreement with us, we will take responsibility for timely calibration of your instruments.
**INTRODUCTION**

**Traditional Calibration Interrupts Production – Risks Contamination**
Traditionally when calibrating a conductivity sensor you will need to dismount it from the production line and then calibrate it in a standard solution either online or in a calibration laboratory. This operation has a number of disadvantages, as it interrupts the production. The dismount introduces some uncertainties in the calibrations as some sensors are sensitive to their installment. Furthermore you risk contamination of your production line.

**Save Hours on Your Total Calibration Time**
With the Insacal from Insatech Pharma you will be able to validate and calibrate sensors in line without removing the sensor from production, eliminating the above mentioned disadvantages. At only 4 kg the meter is easily moved to the site in need of calibration, and it facilitates use in your laboratory.
Connect to a power supply, and to the test loop or beaker; Insacal is ready to calibrate. The calibration is precise and easy, with easily documented results, which will save you hours on your total calibration time, thereby minimizing your costs.

Several Insacals are already in use by our customers, world wide, and our calibration engineers use it frequently.
HOW IT WORKS

When calibrating conductivity, the calibration method must represent the way the equipment is used on-site. In some cases the calibration setup must be an exact copy of the field installation; otherwise the sensors must be calibrated in a closed loop.

Two Methods of Calibration
Calibration can be carried out in two ways, either in an open beaker or by closed loop sampling. In both instances the readings from the Unit Under Test (UUT) are compared to the readings of the Insacal Master Meter.

Beaker
When calibrating in a beaker both the Insacal sensor and the UUT are placed in a stirred vessel/container. This setup is most suitable when you need to calibrate values above 5 μS/cm.

Closed Loop
If you are calibrating in a closed loop the Insacal is connected to the production piping via a pre-installed test valve. This method is always recommended when measuring low conductivity values.

Insacal T9 Calibration Tank
The optional Insacal-T9 calibration tank for the Insacal Master Meter can help you perform loop calibration of your sensor. Your sensor is easily connected to the tank and the Insacal. The tank holds up to 9 liters of calibration fluid and a pump circulates it through both the Unit Under Test and the Insacal, making it effortless to calibrate your sensors.
OPERATION

The Insacal Conductivity Master Meter is delivered tested and calibrated, ready for use. It can be used in all non-hazardous areas on site or in the laboratory and can be used to calibrate conductivity measurements from ultra pure water (like WF1) up to chemical solution levels.

Easily Transported and No Permanent Installation Required
The Insacal is handy and weighs less than 4 kg. The sturdy design together with the solid handle makes it easy to transport to the point of use and well suited for use anywhere on-site. Since the Insacal can be inserted into a beaker or valve no permanent installation is required.

Intuitive Touch Screen Operation
The Master Meter is equipped with a touch screen and operating it is very intuitive. The reference, temperature and conductivity are presented on the display. Furthermore, transmitter settings can be password protected to avoid unintended changes in settings, e.g. cell constant. The software supports multiple languages.

Made for the Pharmaceutical Industry
Insacal was developed for the pharmaceutical industry. The casing is made with AISI 304, it is dust tight and cleanable for cleanroom use according to industry standards. The Insacal is equipped with a flow fitting for the sensor to avoid influence from the surroundings when used for in-situ calibrations. All wetted parts are CIP (Cleaning-In-Place) and SIP-able (Steam-In-Place).

Is the Standard Solution Insufficient?
If the standard Insacal is insufficient for your specific use, we can work out a User Requirements Specification (URS) in accordance with your requirements as a pre-order.

Documentation from Basic to Full Validation
Insatech documents the various components, the interaction between the components and the total delivery as agreed to with the customer. We work according to well recognized standards, e.g. Good Automation Manufacturing Practice (GAMP).

The extent of our documentation is as per agreement with the customer, and goes from the basic operations manual to full validation in accordance with common practice of the pharmaceutical industry.
A TRUSTWORTHY AND COMPETENT PARTNER

Over the years Insatech has become a trustworthy and competent partner, supplying technical solutions and giving advice to the process industry. We have great experience with the particular applications and high requirements for documentation in our primary market pharma, biotech, and food industry.
Irish Power & Process is a major supplier of advanced measurement and calibration solutions to high-end industries. ISO 9001 approved employing motivated and highly competent people. With Irish Power & Process as your partner you will benefit from our knowledge and experience since 1983. We offer a wide range of products and services to the pharmaceutical industry with the necessary documentation and validation assistance.

- Periodic maintenance of your instruments - control and replacement
- Managing calibration interval on your instruments and loops
- Validation of instruments
- Optimising your process
- Project Management
- Consultancy and training
- On-site repair and maintenance
- Trouble shooting
- Energy measurements
- Perform calibrations on-site or in our laboratories:
  - Pressure: (0,1 to 700 bar abs/rel)
  - Conductivity: (from ultrapure water to high concentrations)
  - Temperature: (-80 to 600°C)
  - Flow: (½” to 3” pipes - liquid) (5 ml/m to 416 l/m gas)
  - pH-calibration

WHO IS?

DFM
DFM is the Danish National Metrology Institute. DFM is a private company owned fully by the Technical University of Denmark - DFM is our main supplier of accredited standard solutions.

DANAK
DANAK is a Service Company handling the administration of accreditation and metrology in Denmark based on a contract with The Danish Safety Technology Authority which is part of The Danish Ministry of Economics and Business Affairs.
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