



**ISM**

# Intelligent Digital pH and Oxygen Systems

## One Step Ahead of Maintenance

**METTLER TOLEDO**

# With Digital ISM<sup>®</sup> Technology Into the Future of Process Analytics

The new innovative digital METTLER TOLEDO "Intelligent Sensor Management<sup>®</sup>" concept makes it decidedly easier to operate process analytical systems from initial installation to maintenance right through to sensor exchange. ISM technology enables you to lower maintenance costs and reduces the risk of sensor failure while improving process reliability.

## Quick and easy installation thanks to "Plug and Measure"

Operation errors at the transmitter are largely excluded, since all relevant status and configuration information is automatically transferred from the sensor to the transmitter during start-up.

- Sensors are immediately recognized during installation.
- Operational availability of a measuring point within seconds.
- ISM-enabled measuring systems recognize manufacturer, sensor, type, serial number, order number and last sensor calibration.
- Calibration history available for trend analysis.

## Pre-calibration of pH electrodes and oxygen sensors in the lab

Quick and easy replacement of sensors directly at the measurement point, using pre-calibrated units.

- Sensors can be pre-calibrated in the laboratory with a PC-based calibration tool or the M 700 transmitter.
- The sensor can be replaced and is operational within seconds, saving time and increasing operational availability.

## Optimized maintenance with sensor wear indicator and adaptive calibration timer

On-line available diagnostics information allows you to schedule sensor maintenance or replacement and thus optimize operating efficiency and reduce maintenance costs.

This in turn provides improved process reliability and avoids unscheduled process downtimes.

- Measurement and diagnostics data are continuously monitored.
- Predictive diagnostics information with a sensor wear monitor for pH and DO sensors.
- Operating hours are recorded for each individual sensor.
- The adaptive calibration timer adapts the calibration interval according to sensor wear.

## Optimized sensors:

- pH reference diagnostics with integrated solution ground. addresses the most frequent maintenance root cause.
- 3-electrode system for oxygen sensors optimizes drift performance.





Multiparameter transmitter M 700



**Safe and fast:** Data exchange via digital IEEE communication protocol.



Digital ISM sensor

### The digital ISM® solution

Specific to the new line of pH and DO ISM sensors is that signal processing is integrated in the sensor head itself. A fully digital communication to the M 700 transmitter ensures low impedance signal transmission with a digital IEEE compliant communication protocol and thus ensures undisturbed data exchange which is insensitive to spurious interferences, leading to greater process reliability.

pH and DO ISM sensors work with the flexible M 700 transmitter line. Parameter specific modules can handle both analog or digital sensors and are open to future enhancements, without hardware change.

### Feature overview for all digital ISM electrodes and sensors:

- Top sensor performance with additional solution ground
- Digital K8S connector IP 68
- “Plug and Measure” functionality
- Advanced sensor diagnostics
- Wear monitor / adaptive calibration timer
- CIP/SIP counter
- ATEX, FM compatible (pending)

### METTLER TOLEDO digital ISM sensors offering:

Dissolved and gaseous oxygen sensors

- InPro 6850i
- InPro 6950i

pH electrodes

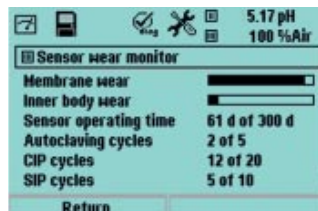
- InPro 3250i/3253i
- InPro 4260i
- InPro 4800i

### System integration:

Predictive sensor wear or adaptive calibration timer information can also be integrated into your PLC via PROFIBUS® PA or FOUNDATION fieldbus™ thus leading to a unique integrated concept for optimized maintenance management.



Quick and easy installation with “Plug and Measure”.



Optimized maintenance with sensor wear monitor.



Fast troubleshooting with sensor network diagram.



InPro 4260i



InPro 3250i



InPro 4800i



InPro 6850i



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**Mettler-Toledo AG**

Process Analytics  
Im Hackacker 15, CH-8902 Urdorf  
Phone +41 44 729 62 11  
Fax +41 44 729 66 36

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