

Conductivity

INGOLD

Leading Process Analytics

- WideRange™ technology
- Exceptional measurement ranges
- Stable measurement signals
- Vario Pin® connector (IP 68)
- MaxCert™

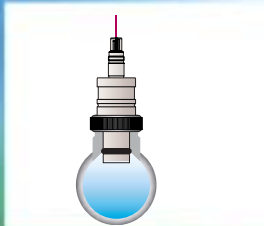


**For very low to medium/high conductivity:
Where optimal performance is essential.**

METTLER TOLEDO

Safety first.

The new conductivity sensors from METTLER TOLEDO are designed for high process safety, rapid sensor replacement and quick and easy installation. Due to WideRange™ technology, ranges of measurement can now be covered that were previously possible only with the use of toroidal (electrodeless) sensor systems.



Always one step ahead.

METTLER TOLEDO conductivity sensors provide you with all the benefits of advanced technologies, such as:

WideRange™ technology – saving costs and increasing measurement accuracy.

With WideRange™, METTER TOLEDO opens up new dimensions in measurement technology. Superior electrode surface finish now make it possible to venture to measurements in applications that previously have been possible only with toroidal sensor systems. Moreover, the sensors have been miniaturized, decreasing the cost of process adaption and allowing installation in pipes with very small diameters.

WideRange™ technology keeps the sensor design small and easy to install.



VarioPin® connector (IP 68) – high process safety and rapid sensor replacement.

In tests, the VarioPin® connector (VP) was immersed in water for 1000 hours at 1 bar overpressure (corresponding to a depth of 10 meter). The results showed that the VP connector remains absolutely watertight. The VarioPin® connector avoids all the awkward handling associated with fixed cable sensors.

Water tight VarioPin® connector



MaxCert™ – plant validation and qualification made easy.

MaxCert™ supports you in fulfilling even the most stringent process requirements of the pharmaceutical or food & beverage industries. Cell constants are determined and documented individually, and are traceable to NIST/ASTM standards. All stainless steel and Hastelloy parts which come into contact with sample media are accompanied by a relative test certificate 3.1B. All polymer parts, including O-rings, are made of materials in compliance with FDA requirements. And best of all, these certificates are included in the sensor package – no hidden costs for our customers!

Certificates are part of MaxCert™.

Specially for very low conductivity values...

The 2-electrode sensors from METTLER TOLEDO reliably meet the demands placed on measurement technology today in respect of quality control in water conditioning/preparation in the chemical and food & beverage industries. These sensors provide both improved process safety and enhanced support for the validation and qualification procedures of your plant. And of course, the sensors are fully compatible with METTLER TOLEDO housings and transmitters.

Distinctive features of our 2-electrode sensors

	InPro 7000-VP / InPro 7005-VP	InPro 7001-VP	InPro 7002-VP
Sterilizable	–	131 °C/268 °F	155 °C/311 °F
WideRange™ technology	•	–	–
VarioPin®, certified IP 68	•	•	•
MaxCert™	•	•	•
Test certificate according to EN 10204 3.1B	–	•	•
Accuracy of cell constant (± 1 %)	•	•	•
Process connection			
¾" NPT	•	–	–
PG 13.5	–	•	–
Tri-Clamp (1.5" and 2")	–	–	•
Application range in water conditioning			
Chemical industry	•	–	–
Food & beverage industry	–	•	•

2-electrode sensors – where accuracy counts!

Highest measurement accuracy
Precisely precalibrated and documented cell constants are your assurance of highest measurement accuracy, reduced costs and increased process safety.

Wide range of applications

Our extensive selection of process adaption accessories is designed to ensure optimal installation of the appropriate sensor for any specific application – and this includes your process, too!

Worldwide calibration service

To meet ongoing requirements for qualification and validation after the initial installation of the sensor METTLER TOLEDO specially developed an ultrapure water rig for the recalibration and recertification of all 2-electrode sensors.



InPro 7000-VP



InPro 7005-VP



InPro 7001-VP



InPro 7002-VP

...for medium to high conductivity values.

The 4-electrode sensors from METTLER TOLEDO provide you with the highest degree of safety during CIP and SIP processes. These sensors are specially designed and ruggedly built to withstand most rigorous cleaning procedures. Installed in optimally suited INGOLD weld-in sockets from METTLER TOLEDO for CIP procedures, thorough, safe and easy cleaning is ensured. These robust sensors are also highly suitable for applications in the chemical industry and in the treatment of industrial wastewater.

Distinctive features of our 4-electrode sensors

	InPro 7108/25-VP	InPro 7108-TC-VP	InPro 7108-VP/ PEEK	InPro 7108-VP/ CPVC
Sterilizable (140 °C / 284 °F)	•	•	•	–
WideRange™ technology	•	•	•	•
VarioPin®, certified to IP 68	•	•	•	•
MaxCert™	•	•	•	•
Accuracy of the cell constant (± 1 %)	•	•	•	•
Process connection				
Ring nut G 1 1/4"	•	–	–	–
Tri-Clamp 1.5" and 2"	–	•	–	–
1" NPT	–	–	•	•
Application areas				
Phase separation in the food & beverage and pharmaceutical industry	•	•	–	–
Monitoring of CIP/SIP	•	•	–	–
Chemical industry	–	–	•	–
Flushing and cleaning	–	–	•	–
Chemicals concentration	–	–	•	–
Industrial wastewater	–	–	–	•

4-electrode sensors – where hygiene counts!

WideRange™ technology

- Compact design meets the highest hygienic requirements
- Suitably for CIP/SIP procedures
- Wide measuring range – ideal for phase separation and CIP/SIP processes

Low maintenance and reliability

- Withstands well over 200 sterilization cycles (standard conditions)
- Vario Pin®, IP 68 certified, watertight connector
- Surfaces with enhanced resistance to fouling

MaxCert™

- All standard certificates included with the product
- Individual cell constants, traceable to NIST/ASTM
- Medium-wetted parts FDA-compliant, with certification



InPro 7108/25-VP

InPro 7108-TC-VP

InPro 7108-VP/PEEK

InPro 7108-VP/CPVC

To meet every measuring requirement.

InPro® conductivity sensors together with the appropriate transmitters and housings from METTLER TOLEDO comprise a complete measurement system. Suitable housings can be found in our technical data sheet (order no. 52 002 183).

METTLER TOLEDO offers a large selection of transmitters to meet every application and every budget. This allows a complete system to be tailored to the needs of each specific measurement requirement. Instruments in 4-wire technology as well as 2-wire units, including Ex-proof versions, are available. HART® communication is now a standard feature of several instruments. In addition, the transmitter Cond 7100 is available with a Profibus® interface.

Distinctive features of our transmitters

Transmitter	Cond 7050 / Cond 7050 e	CR 7300 / CR 7350	Cond 7100 / Cond 7100 e	7220 X	7500
4-wire	•	•	•	–	•
2-wire, Ex	–	–	•	•	–
Communication	–	RS 232 / 422	HART® / Profibus	HART®	RS 485
Controller	•	–	– / •	•	•
Current output	1 / 2	2	1 / 2	2	2
Compatibility					
2-electrode sensors	• / •	• / •	• / •	•	•
4-electrode sensors	– / •	– / •	• / •	•	•

The measuring range of a system depends on both the material and characteristics of the sensor, and the characteristics of the electronics of the associated transmitter.

For the measurement of extremely high conductivity values, METTLER TOLEDO offers a range of inductive measuring systems. Further details can be found in our brochure «Inductive measuring systems for industrial processes» (order no. 52 120 960).

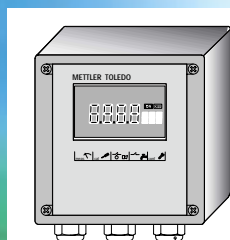
Ranges of measurement

InPro 7000-VP Series

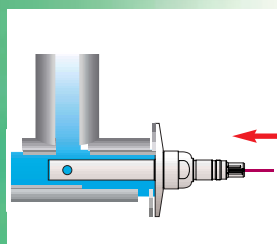
The 2-electrode sensors are suitable for measurement applications from very low (ultrapure water) to low (drinking water) conductivity. The upper measuring limit depends on the transmitter used.

InPro 7100-VP Series

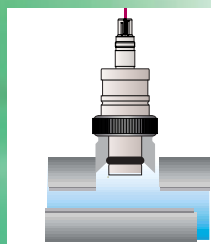
The 4-electrode sensors are appropriate for the measurement of medium to high conductivity values, from 0.02 up to approx. 800 mS/cm.



Transmitter



Side installation



Top installation

Fast and competent.



A professional worldwide distribution and service network is available to provide you with the best possible technical and application support. METTLER TOLEDO offers a high level of customer service, from consulting through to trouble-shooting.

For 2-electrode sensors, METTLER TOLEDO offers a recertification/recalibration service. Renewed calibration and recertification of the sensor is carried out in a specifically developed ultrapure water rig.

METTLER TOLEDO is the first and foremost in the field of customer-oriented application support. Our local sales organization will only be too pleased to be of assistance.

For the new sensors is the following information available:

	Technical data sheet	Order no.
InPro 7000-VP / InPro 7100-VP		52 002 183

Please contact your local METTLER TOLEDO sales representative for the technical data sheets of all other sensors.



Transmitters

- «Value Line»
- «Advanced Line»
- «Premium Line»



pH/ORP

- Gel / polymer electrodes
- Liquid electrodes
- Non-glass electrodes
- Polymer body electrodes



O₂/Oxygen

- Value sensors
- Advanced sensors
- Portable instruments



Conductivity

- Value sensors
- 2/4-electrode sensors
- Inductive sensors



Turbidity

- Medium to high turbidity



Housings

- For gel and polymer electrodes
- For liquid electrolyte electrodes



Cleaning & calibration systems

- EasyClean family



Management System certified according to ISO 9001 / ISO 14001

Sales and service: