

Wallace & Tiernan® Analyzers/Controllers

Conductivity measurement

General

Electrical conductivity is a composite parameter representing a measure for the ion concentration of a solution. Ions of salts dissolved in water primarily indicate conductivity. The Wallace & Tiernan® conductivity sensor measuring module is composed of the sensor card for MFC or SFC and the sensor.

Applications range from simple measuring tasks to complex control processes for treating potable and process water, pool water as well as waste water.

Typical applications

- Measurement and control tasks by potable waterworks and public utilities
- Determination of unspecific pollutants in industrial processes
- Process water monitoring in all water-carrying industrial areas
- Cooling water monitoring

Features

The all-purpose conductivity sensor is equipped with four electrodes and is characterized by its resistance to pollutants and contaminants (e.g. biofilms). This sensor is also easy to clean. In contrast to two-electrode sensors, it features a greater measuring range. Longer maintenance intervals are another advantage. The sensor has an integrated temperature sensor and therefore an automatic temperature compensation feature since conductivity is heavily dependent on temperature. The sensor is inserted into the flow-through adapter. Screw-type connections are available for pressurized flow-through modules. The standard conductivity sensor is equipped with a 0.9 m-long (3.0 ft.) coaxial cable (customized measuring cable). Cables with a length of up to 50 meters (164 ft.) are available as optional accessories.

Benefits:

- Accurate, reproducible measurement resistant to interference due to 4-electrode sensor
- Long-term measurement stability due to robust carbon electrodes
- Highest precision and linearity due to optimized cell geometry and standard integrated temperature sensor
- Compatible with all measurements of the MFC and SFC unit series



Conductivity sensor with cable and plug-in card








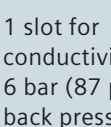
Product Sheet

Water Technologies

SIEMENS

Measuring Cell	Conductivity Sensor
Measuring principle	4-electrode sensor
Cell constant	0.48 m ⁻¹ ± 1.5 %
Working temperature	-5 to +100 °C (23 – 212 °F)
Max. operating pressure	10 bar (145 psi)
Installation length	120 mm (4.7 ")

Electronics	Sensor Card for MFC and SFC
Measurement input	Conductivity sensor
Input data	-1000 to +1000 mV, impedance 10 ¹³ Ohm
Resolution	up to 2500 µS/cm: 1 µS/cm; up to 10 µS/cm: 0.01 mS/cm; up to 100 mS/cm: 0.1 mS/cm; up to 200 mS/cm: 1 mS/cm
Measuring range	0.1 – 200 mS/cm
Measuring accuracy/drift	0.5 % FS/temperature drift < 0.2 %
Measuring cable	Customized cable-plug combo

Flow Module	View	Slots Non-pressurized	Slots Pressurized	Technical Data
DEPOLOX® 5 flow-through adapter with integrated, open sensor for oxidation and disinfection chemicals and com- patible with additional measurements of the MFC/SFC series		 1 slot for conductivity sensor	 1 slot for conductivity sensor, 1.5 bar (22 psi) back pressure	Sample water flow: Controlled to 33 l/h (0.15 US gpm) with max. 4 bar (58 psi) inlet pressure* Integrated multi-sensor with flow monitor and compatible with temperature sensor max. sample water temperature: +50 °C (122 °F)
VariaSens™ Flow-through adapter in combination with membrane sensors and additional measurements of the MFC/SFC series		 1 slot for conductivity sensor	 1 slot for conductivity sensor, 1.5 bar (22 psi) back pressure	Sample water flow: Controlled to 33 l/h (0.15 US gpm) with max. 4 bar (58 psi) inlet pressure* Integrated multi-sensor with flow monitor and compatible with temperature sensor max. sample water temperature: +50 °C (122 °F)
Angle seat adapter flow-through adapter for separate conductivity measurement			 1 slot for conductivity sensor, 6 bar (87 psi) back pressure	Sample water feed line in bypass or directly in process water flow possible max. sample water temperature: +50 °C (122 °F)

● Membrane sensor ● pH/redox sensor ● Sensor for fluoride or conductivity

*: Sample water pressures of up to 40 bar (580 psi) can be adapted with special equipment.

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