

For measuring  
pH/ORP,  
conductivity or oxygen.  
Digital or analog.

## Sensors

**MEMO SENS**





# Sensors



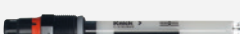
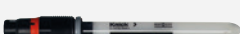












## pH Sensors

### with Application-Specific Properties

pH sensors from Knick have been developed and optimized in close cooperation with users for a wide range of applications. Special glasses, a large variety of junctions (open, PTFE, ceramic, platinum), special reference systems, analog or, of course, digital with Memosens – Knick has the right sensor for every application.

Alpha glass	Medium impedance, universal glass, fluoride resistant
Sigma glass	Low impedance for low-temperature applications
Omega glass	High impedance for high-temperature applications, minimal alkali error, CIP/SIP-capable

Model	Meas. Value	Memosens	VarioPin	DIN coax	Temperature Rel. Pressure	Electrolyte Junction	Measuring Electrode	Special Features / Applications
SE 503 	pH			●	-5 ... 80 °C 0 ... 2 bar	Gel Ceramic	Sigma glass	Water
SE 515 	pH	●			-5 ... 80 °C 0 ... 4 bar	Viscous gel Ground glass	Sigma glass	Water, water treatment, surface water, drinking water
SE 554 	pH	●	●		0 ... 130 °C 0 ... 10 bar	Solid polymer Hole	Alpha glass	Industrial applications, dyes, precip- itation reactions, polluted media
	pH/ORP	●					Alpha glass Platinum	Simultaneous pH/ORP measurement
SE 564 	ORP	●		●	0 ... 130 °C 0 ... 10 bar	Solid polymer Hole	Platinum	Industrial applications, dyes, precipitation reactions, polluted media

Model	Meas. Value	Memosens	VarioPin	DIN coax	Temperature Rel. Pressure	Electrolyte Junction	Measuring Electrode	Special Features / Applications
SE 555 	pH	●	●	●	0 ... 135 °C -1 ... 6 bar	Viscous gel with internal pressure, ceramic	Omega glass	Fermentation, food and beverages, aggressive media, poisonous media, extreme pH values
SE 555 PWIS-free 	pH	●			0 ... 135 °C -1 ... 6 bar	Viscous gel with internal pressure, ceramic	Omega glass	PWIS-free applications, fermentation, food and beverages, aggressive media, poisonous media, extreme pH values
SE 565 	ORP	●			0 ... 135 °C -1 ... 6 bar	Viscous gel with internal pressure, ceramic	Platinum	Fermentation, food and beverages, aggressive media, extreme pH values, electroplating
SE 557 	pH	●	●		-20 ... 100 °C -1 ... 6 bar	Liquid, refillable, ceramic	Alpha glass	All applications from ultrapure water to highly aggressive and blocking media
		●			0 ... 135 °C -1 ... 6 bar		Omega glass	
SE 558 	pH	●	●		-5 ... 100 °C -1 ... 3 bar	Viscous gel, KCl reservoir, ceramic 3x	Alpha glass	Boiler feedwater, condensate, ultrapure water, WFI (water for injection), cooling water, low-conductivity media
SE 559 	pH	●			-5 ... 100 °C 0 ... 6 bar	Solid polymer Ground glass	Alpha glass	Wastewater, industrial water treatment
SE 560 	pH	●			-20 ... 100 °C -1 ... 3 bar	Liquid, refillable, platinum	Alpha glass	Low-temperature applications, cooling brine, electroplating, low-conductivity media
		●			-20 ... 80 °C -1 ... 0.5 bar			
SE 571 	pH	●			-5 ... 130 °C 0 ... 12 bar	Viscous gel, KCl reservoir, silver ion trap PTFE ring	Alpha glass	Applications with high pressure, high temperature, heavily polluted media
SE 571 PWIS-free 	pH	●			-5 ... 130 °C 0 ... 12 bar	Viscous gel, KCl reservoir, silver ion trap PTFE ring	Alpha glass	PWIS-free applications, applications with high pressure, high temperature, heavily polluted media
SE 546 	pH	●			-15 ... 135 °C 0 ... 10 bar	Viscous gel, polymer, ceramic, dual chamber	ISFET	Glass-free sensor, hygienic and sterile applications, food industry, cosmetics



# Sensors

















## Conductivity Sensors

### for the Complete Range of Aqueous Solutions

The conductivity of aqueous solutions covers a range of more than eight decades, starting with 0.055  $\mu\text{S}/\text{cm}$  for ultrapure water and going as far as over 1,000  $\text{mS}/\text{cm}$  for fully dissociated acids or bases. These very different requirements are fulfilled by special Knick sensors. Depending on the application, they come as two- or four-electrode sensors or toroidal sensors.

All sensors are equipped with a temperature detector for automatic temperature compensation.

Model	Principle	Memosens	VarioPin	Digital	Connector	Fixed cable	Measuring Range (Resolution)	Temperature Pressure	Materials	Process Connection	Special Features / Applications
SE 604 	2 electrodes, coaxial				●		0 ... 1,000 $\mu\text{S}/\text{cm}$ (0.001 $\mu\text{S}/\text{cm}$ )	-30 ... 120 °C Max. 25 bar	1.4571	G 1"	Boiler feed water, feed water, cooling water, water vapor cycle, pure water, condenser monitoring
		●					0 ... 500 $\mu\text{S}/\text{cm}$ (0.001 $\mu\text{S}/\text{cm}$ )	-20 ... 120 °C Max. 25 bar			
SE 605 	2 electrodes, coaxial	●					0 ... 1,000 $\mu\text{S}/\text{cm}$ (0.001 $\mu\text{S}/\text{cm}$ )	-20 ... 135 °C Max. 25 bar	1.4435	NPT 1" DN50 ANSI 2"	Boiler feed water, feed water, cooling water, water vapor cycle, pure water, condenser monitoring
SE 605H 	2 electrodes, coaxial	●					0 ... 1,000 $\mu\text{S}/\text{cm}$ (0.001 $\mu\text{S}/\text{cm}$ )	-20 ... 135 °C Max. 25 bar	1.4435	Ingold socket (25 mm), clamp	Ultrapure water, WFI (water for injection), pharmaceutical and food industry, biotechnology
SE 610 	2 electrodes, coaxial					●	0 ... 1,000 $\mu\text{S}/\text{cm}$ (0.1 $\mu\text{S}/\text{cm}$ )	10 ... 90 °C Max. 6 bar	1.4571	G 1/2"	Drinking water, industrial water, surface water, ion exchanger and reverse osmosis plants, rinse water, seawater desalination plants
SE 620 	2 electrodes, coaxial		●				0 ... 50 $\mu\text{S}/\text{cm}$ (0.001 $\mu\text{S}/\text{cm}$ )	0 ... 135 °C Max. 16 bar	1.4435	Clamp	Pure and ultrapure water, WFI (water for injection), food, ion exchangers, reverse osmosis plants; also chip manufacturing

Model	Principle	Memosens	VarioPin	Digital	Connector	Fixed cable	Meas. Range (resolution)	Temperature Pressure	Materials	Process Connection	Special Features / Applications
SE 615 	2 electrodes	●					0 ... 20 mS/cm (0.01 mS/cm)	-5 ... 80 °C Max. 4 bar	Polysulfone Graphite	PG 13.5	Water and wastewater treatment
SE 630 	2 electrodes			●			0 ... 50 mS/cm (0.005 mS/cm)	-20 ... 135 °C Max. 16 bar	PES / graphite	G 1" NPT 1"	Water, polluted wastewater, process solutions with medium conductivities, also corrosive media
		●				0 ... 20 mS/cm (0.01 mS/cm)					
SE 600 	4 electrodes					●	0 ... 600 mS/cm (0.0005 mS/cm)	Max. 210 °C Max. 25 bar	AISI 316 L PTFE	1" weld-in socket	Special chemical processes; condenser monitoring, also for heavily polluted (e.g., fibrous) media, pulp production
SE 603 	4 electrodes					●	0 ... 600 mS/cm (0.005 mS/cm)	Max. 120 °C Max. 12 bar	PTFE Platinum	Special flange	Pure water up to high conductivities; highly corrosive processes, bleaching liquors, oxidizing and heavily polluted media, condenser leakage monitoring
SE 655 	Inductive			●		●	0 ... 2,000 mS/cm (0.002 mS/cm)	-20 ... 125 °C Max. 20 bar	PEEK	G ¾" (NPT 1" ANSI 2" DN 50 each with adapter)	Concentration measurement of acids and alkalis, fouling media, salt brines, heavily polluted wastewaters, cooling water blowdown
					●						
SE 656 	Inductive			●		●	0 ... 2,000 mS/cm (0.002 mS/cm)	-20 ... 125 °C Max. 16 bar	PFA	G ¾" (NPT 1" ANSI 2" DN 50 each with adapter)	Conductivity measurement of highly concentrated acid and alkaline solutions, hydrofluoric acid, nitric acid, concentrated sulfuric acid, oleum, concentrated alkaline solutions, strongly oxidizing media
					●						
SE 660 	Inductive					●	0 ... 2,000 mS/cm (0.02 mS/cm)	0 ... 60 °C Max. 10 bar	PP	Coupling nut G 1 ½"	Fresh water and wastewater treatment, monitoring of salts and alkaline solutions, general concentration monitoring, tanneries, washers, automotive engineering, rinsing processes
SE 670 	Inductive					●	0 ... 2,000 mS/cm (0.02 mS/cm)	0 ... 60 °C Max. 10 bar	PP	Coupling nut, dairy pipe, adaptation to flow-through cells	Fresh water and wastewater treatment; salt, alkaline solution, and general concentration monitoring; tanneries; caustic treatment; washers; rinsing processes
SE 680 	Inductive					●	0 ... 2,000 mS/cm (0.002 mS/cm)	-10 ... 125 °C max. 10 bar	PEEK	Varivent, clamp, dairy pipe, adaptation to flow-through cells and immersion fittings	Electroplating, CIP monitoring in the beverage industry, breweries, bottling plants, pharmaceuticals, monitoring concentrations of salt solutions, alkalis and acids, chemistry, EHEDG-certified





# Sensors







## Oxygen Sensors

### with Low Maintenance

Robust design, durable materials, and modular structure:

Oxygen sensors from Knick are characterized by a high level of process safety. The membrane of the amperometric sensors is steel-mesh-reinforced and PTFE-coated and can be replaced quickly and easily, as can the electrode system with its complete inner body.

The product portfolio includes sensors for trace measurements and low-maintenance digital optical oxygen sensors.

Model	Principle	Memosens	VarioPin	M12 digital	Measuring Range (Resolution)	Temperature Rel. Pressure	Materials	Special Features / Applications
SE 706 	Amperometric	●	●		0 ... 50 mg/l (6 µg/l)	0 ... 80 °C -0.8 ... 5 bar	1.4404	Biotechnology, pharmaceutical industry, fermentation, various fields of analytical chemistry
SE 707 	Amperometric	●	●		0 ... 50 mg/l (1 µg/l)	0 ... 80 °C -0.8 ... 5 bar	1.4404	Beverage filling (e.g., milk, beer) measurement in boiler feed water
SE 715 	Amperometric			●	0 ... 20 mg/l (20 µg/l)	-5 ... 45 °C Max. 3 bar	Polysulfone Stainless steel	Water, wastewater, aeration, ventilation control, fish farming, aquariums
SE 740 	Optical, luminescence quenching			●	0 ... 25 mg/l (4 µg/l)	-10 ... 85 °C -1 ... 12 bar	1.4435	Food, pharmaceutics, fermentation and process, condensate containing dissolved H <sub>2</sub>

Maintenance work  
when using  
Memosens sensors



Maintenance work  
when using  
conventional sensors



# Memosens

## Interference-Free Coupling

The Memosens inductive sensor connector system transfers both energy and data without contact between electrochemical sensors and analyzers.

## Pre-Calibrated Sensors

By using pre-calibrated sensors, Memosens ensures maximum availability and lower maintenance requirements at the point of measurement.

## Intelligent Diagnostics

Memosens enables process-related data (e.g., operating time, wear and tear, CIP/SIP counter) to be saved and analyzed directly in the sensor.

## Memosens.

### The Benefits at a Glance:

- Plug & Measure – Sensor replacement in seconds with pre-calibrated sensors
- Simple and safe plugging with bayonet coupling
- Contactless, digital data transmission
- All key data available in the sensor
- Longer sensor service life
- Error-free measurements, even in the toughest conditions
- Just one cable system for all sensors
- Measured values not influenced by excessively long cables



[www.knick.de/memosens](http://www.knick.de/memosens)



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