

## DIGITAL FIXED STATION INSTRUMENT

**S200 Open**

## On-line digital transmitter



- Digital communication technology
- Two digital sensor inputs
- Two 4-20 mA outputs, 2 relay outputs
- Modbus RTU output
- Wide range of sturdy & smart sensors

**Scope:**

- Wastewater treatment (aeration basins to monitor/control nitrification/denitrification processes)
- Drinking water (raw water testing)
- Treatment of industrial effluents (discharge testing, control, etc.)
- Surface water monitoring
- Fish farming, etc.

The new S200 digital transmitter connects two PONSEL brand digital sensors to monitor the following parameters: pH, Redox, Temperature, dissolved Oxygen (by optical channel), conductivity, salinity, Turbidity (NTU), suspended material (g/L), Sludge Blanket (%), etc.

The measured values are displayed and transferred by analog or digital means. The preconfigured regulatory functions also optimize process control.

The S200 unit is related to a wide range of perturbation-resistant digital sensors: pre-amplification built into the sensor and digital processing of signals. All data regarding calibration, logs, users and measurements are processed directly in the sensor allowing for extremely reliable and traceable measurements.

**Available versions:**

The Oxygen and Turbidity versions are available on June 15th, 2018.

## TECHNICAL DATA SHEET

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### S200 technical characteristics:

Software & features	
2 digital inputs	2 RS485 digital sensor inputs
2 digital inputs	Controller stop by external dry contact Flow measurement Impulse input
2 analog outputs	0/4-20 mA with galvanic insulation 500Ω, resolution < 0.010 mA
2 relay digital outputs	Dry contact free potential configurable MAX. 12 V, 200 mA
3 relay outputs	2 configurable digital outputs: - 1 as alarm relay - 1 NO free potential Max. 250 V, 6A, 1000 VA
Controller	On/Off control with hysteresis, P or PI
Control	On/Off control with hysteresis Pulse – pause, Frequency pulse Analog uninterrupted
Limit value	Min. and Max. values Adjustable time (0 .....9999 s)
Digital interface	Slave Modbus RTU

Unit technical characteristics:	
Power supply	230 V/AC, +/- 10% (50/60 Hz) 110 V/AC, +/- 10% (50/60 Hz) 16 VA consumption
Display	Backlit LCD screen 4x20 characters 5 directional button keyboard
Dimensions (HxWxD)	160 x 165 x 85 mm
Weight	1.1 Kg
IP index	IP 65
Operating temperature	-20 to +55°C Max. 90 % relative humidity at 40 °C not condensed
Storage temperature	-20 ± +65 °C

### Digital sensors

#### ■ Digital "smart" probes

- All calibration data (factory coefficients, offset, and slope) are recorded in the probe,
- Digital technology for extremely reliable measurements without any interference.

#### ■ Sturdy fieldwork and laboratory probes

- Probes based on over 50 years of PONSEL experience
- Applications for natural water, drinking water, wastewater, sewerage networks, etc.



## TECHNICAL DATA SHEET

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		PRINCIPLE	RANGES	ACCURACY	MATERIAL		Availability
<b>OPTICS</b>	<b>Oxygen</b>	Fluorescence optics	0.00-20.00 mg/L 0 – 200 %	± 0.1 mg/L ± 1 %	Special membrane, stainless steel 316L or Titanium, herazil	Temperature compensation, via CTN, pressure and salinity	June 2018
	<b>Turbidity</b>	IR Nephelometry (IR diffusion at 90°)	0.0-50.0 NTU 0.0-200.0 NTU 0-1,000 NTU 0-4,000 NTU Automatic	< 5% of NTU reading	Delrin, PVC, PMMA, Stainless steel	Temperature compensation via CTN	June 2018
	<b>Suspended Solid</b>	IR Absorptiometry (870 nm)	Sludge Blanket: 0-100 % Suspended Solid: 0-50 g/L Turbidity: 0-4,000 FAU	Sludge Blanket ± 2% Suspended Solid < 10% Turbidity: ± 5% FAU	Delrin, Nickel-plated brass	Optical temperature control	Soon
	<b>Sludge Blanket</b>	IR Absorptiometry (870 nm)	0-100%	VB ± 2%	Delrin, Nickel-plated brass	Optical temperature control	Soon
<b>ELECTROCHEMISTRY</b>	<b>pH/T°C</b>	Combined electrode (pH/reference)	0.00 – 14.00 pH 0.00 ± +50.00 °C	± 0.1 pH	pH special glass Gelled electrolyte Ag/AgCl reference Temperature: NTC	Temperature compensation via NTC	Soon
	<b>ORP</b>	Combined electrode with platinum tip	- 1,000.0 to +1,000.0 mV	± 2 mV	Delrin, glass, platinum	Gelled electrolyte Ag/AgCl reference	Soon
	<b>Annular ORP</b>	Combined electrode with platinum ring	- 1,000.0 to +1,000.0 mV	± 10 mV	Delrin, glass, platinum	Gelled electrolyte Ag/AgCl reference	Soon
	<b>Conductivity</b>	Amperometric with 4 electrodes	0-200.0 µS/cm 0-2,000 µS/cm 0.00-20.00 mS/cm 0.0-200.0 mS/cm Automatic	± 1 % of the full scale	2 graphite electrodes, 2 platinum electrodes, DELRIN	Temperature compensation via CTN	Soon
	<b>Salinity</b>	Amperometric with 4 electrodes	5.00-60.00 g/Kg	< 5 % of the full scale	2 graphite electrodes, 2 platinum electrodes, DELRIN	Temperature compensation via CTN	Soon
	<b>Induction conductivity</b>	Inductive method	0-100 mS/cm	< 5 % of the full scale	EPDM, PVC, Stainless steel	Temperature compensation via CTN	Soon
	<b>Induction salinity</b>	Inductive method	5.00-60.00 g/Kg	< 5 % of the full scale	EPDM, PVC, Stainless steel	Temperature compensation via CTN	Soon