

DIGITAL FIXED STATION INSTRUMENT

S200 Open

On-line digital transmitter



- Digital communication technology
- Four 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 four 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.

TECHNICAL DATA SHEET

S200 Open

S200 technical characteristics:

Software & features	
1 to 4 digital inputs	4 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 (09999 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
OPTICS	Oxygen	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
	Turbidity	IR Nephelometry (IR diffusion at 90°)	0.0-50.0 NTU 0.0-200.0 NTU 0-1,000 NTU 0-4,000 NTU	< 5% of NTU reading	Delrin, PVC, PMMA, Stainless steel	Temperature compensation via CTN	June 2018
	Suspended Solid	IR Absorptiometry (870 nm)	Suspended Solid: 0-50 g/L Turbidity: 0-4,000 FAU	Suspended Solid < 10% Turbidity: ± 5% FAU	Delrin, Nickel-plated brass	Optical temperature control	Soon
	Sludge Blanket	IR Absorptiometry (870 nm)	0-100%	VB ± 2%	Delrin, Nickel-plated brass	Optical temperature control	Soon
ELECTROCHEMISTRY	pH/T°C	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	July 2018
	Annular ORP	Combined electrode with platinum ring	- 1,000.0 to +1,000.0 mV	± 10 mV	Delrin, glass, platinum	Gelled electrolyte Ag/AgCl reference	July 2018
	Conductivity	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	± 1 % of the full scale	2 graphite electrodes, 2 platinum electrodes, DELRIN	Temperature compensation via CTN	Soon

TECHNICAL DATA SHEET

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Junction box Module 4020

The Module 4020 multi-channel installs are designed for fixed-station installations and coupled to the S200 Open transmitter, and can easily install and connect up to 4 digital sensors simultaneously. The S200 transmitter allows configuring and displaying sensor data.



Technical characteristics Module 4020	
Box	ABS
Protection	IP 67
Number of Input Modbus RS 485	1 to 4 sensors
Interfacing with S200	2 clamp fitting PG11 (Communication & power supply)
Input sensors	Clamp fitting PG9
Operating temperature	- 25°C to + 55 °C
Dimensions (H x L x P) without fixing system	144 x 176 x 85 mm
Dimensions (H x L x P) with fixing system	215 x 146 x 90 mm
Weight	950 g
Power Supply	Power supply sensors 12 V with the transmitter S200

Wiring diagram

1 Red	Power supply, V+
2 Blue	SDI-12
3 Black	Power supply V-
4 Green	B " RS-485 "
5 White	A " RS-485 "
6 Green Yellow	Cable shield

Cable length up to 15m

Cable length up >15m

Red Yellow Orange Purple Pink	Power supply, V+
2 Blue	SDI-12
3 Black	Power supply V-
4 Green	B " RS-485 "
5 White	A " RS-485 "
6 Green/Yellow	Cable shield