

# Multi-Parameter Probes Series 2001: Sensors

This brochure shows sensors of our own manufacturing as well as OEM-products selected from the worldwide offer and adapted for the multi parameter probes of the Series 2001 (Fig. approximately at half size). These are proved standard solutions which lead to relatively budget friendly probe prices.

Except for the current sensor that is combined firmly with the sensor flange in the probes version S 2001compact, all other sensors are attached to the flange via the S-2001 mating system.

The specified data are default values; modified specifications are possible in some cases. In addition, the concept of the Series 2001 allows it to integrate further sensors needed in special applications. A connection via cable and plug to the sensor flange should be possible at least. Please, contact us if those wishes exist.

Parameter/ Measuring Principle	Range/ Accuracy/ Resolution/ Time Constant
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### Current

Inductive (electro-magnetic) 2 axes disk sensor 1000 m depth rated	$\pm 3 \text{ m/s} \pm 1 \%$ (max. $\pm 5 \text{ m/s}$ ) 0.05 % $\approx 0.1 \text{ sec}$
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### Compass (2 axes)

FluxGate-Magnetometer (internal, without fig.) (data in the calibration level)	$0 \dots 360^\circ \pm 4^\circ$ 0.5° $\approx 0.1 \text{ sec}$
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### Compass (3 axes)

Magneto-resistive magnetometer (internal) with a 2 axes inclination sensor (without fig.)	$0 \dots 360^\circ \pm 1.5^\circ (3^\circ)$ $\pm 30^\circ (\pm 60^\circ)$ 0.1° $\approx 8 \text{ Hz}$ (Rate)
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### Temperature

Pt1000 (inside the sensor flange; without fig.)	$-2 \dots +38$ $\pm 0.05^\circ\text{C}$ 0.01°C $\approx 600 \text{ sec}$
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### Pressure

Piezo-resistive absolute pressure sensor depth depending on range	2/5/10/20/50 or 100bar $\pm 0.5\%$ 0.02% optional: $\pm 0.1 \%$ $\approx 0.1 \text{ sec}$
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### Conductivity/ Temperature

7-electrodes quartz-glass cell Pt1000 (1000 m depth rated)	1.2/12/60 mS/cm $\pm 0.1 \%$ 0.01 % $\approx 0.2 \text{ sec}$ $-2 \dots +38$ $\pm 0.05^\circ\text{C}$ 0.01°C 25/2/0.2sec
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### Conductivity

4-electrodes conductivity cell 1000 m depth rated	1.2/12/60 mS/cm $\pm 0.2 \%$ 0.01 % $\approx 0.2 \text{ sec}$
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### Temperature

Pt1000 (S-2001 plug; without fig.) 1000 m depth rated	$-2 \dots +38$ $\pm 0.05^\circ\text{C}$ 0.01°C $\approx 10 \text{ sec}$
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### pH

One-rod measuring system with gel electrolyte (60 m depth rated) Longer standard electrodes with S7 connector are available too (10 m depth rated).	$2 \dots 12 \pm 0.05 \text{ pH}$ 0.01 pH $\approx 10 \text{ sec}$
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### ORP

One-rod measuring system (60 m depth rated) with double-chamber reference system Longer standard electrodes with S7 connector are available too (10 m depth rated).	$-1 \dots +1 \text{ V} \pm 0.002 \text{ V}$ 0.001 V $\approx 10 \text{ sec}$
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### D.O. saturation

Membrane-covered galvanic cell with built-in temperature compensation 1000 m depth rated (pressure compensated)	$0 \dots 200 \%$ 0.1 % $\approx 10 \text{ sec}$
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### Turbidity

Optical stray-light detector (880nm) 1000 m depth rated	20/100/400/750 FTU $\pm 2 \%$ 0.025 % 0.1 sec (Formazin Turbidity Units)
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