



# Microelectrodes

FOR SMALL SAMPLE VOLUMES IN LIFE SCIENCE  
AND PHARMACEUTICAL APPLICATIONS

SI Analytics  
a xylem brand

## Technical details pH and ORP electrodes

Type No.	Order No.	Length L [mm]	Ø [mm]	Reference system	Junction	Membrane shape	Sensor function	ID function	Connection	Shape
A 157	285129610	200 (70/130)	12/5	Silamid <sup>③</sup>	platinum	cylindrical	pH + temperature		SMEK plug head	F
A 157 1M-DIN-ID	285130160	200 (70/130)	12/5	Silamid <sup>③</sup>	platinum	cylindrical	pH + temperature	√	DIN + banana plug <sup>①</sup>	F
A 157 1M-BNC-ID	285130170	200 (70/130)	12/5	Silamid <sup>③</sup>	platinum	cylindrical	pH + temperature	√	BNC + banana plug <sup>①</sup>	F
BlueLine 16 pH	285129163	120 (40/80)	12 / 5	Ag/AgCl	platinum	cylindrical	pH		plug head	H
IL-MICRO-pH-A	285114280	200 (70/130)	12/5	Iodine/Iodide	platinum	cylindrical	pH		Screw plug head S7	A
IL-MICRO-pH-A-DIN	285113930	200 (70/130)	12/5	Iodine/Iodide	platinum	cylindrical	pH		DIN <sup>①</sup>	A
IL-MICRO-pH-A-BNC	285114290	200 (70/130)	12/5	Iodine/Iodide	platinum	cylindrical	pH		BNC <sup>①</sup>	A
IL-MICRO-pHT-A-DIN-N	285114300	200 (70/130)	12/6	Iodine/Iodide	platinum	cylindrical	pH + temperature	√	DIN + banana plug <sup>①</sup>	B
IL-MICRO-pHT-A-BNC-N	285114310	200 (70/130)	12/6	Iodine/Iodide	platinum	cylindrical	pH + temperature	√	BNC + banana plug <sup>①</sup>	B
N 5800 A	285105127	96 <sup>②</sup>	5	Silamid <sup>③</sup>	3 x platinum	spear	pH		DIN plug <sup>①</sup>	C
N 5800 BNC	285105579	96 <sup>②</sup>	5	Silamid <sup>③</sup>	3 x platinum	spear	pH		BNC plug <sup>①</sup>	C
N 5900 A	285105135	96 <sup>②</sup>	5	Silamid <sup>③</sup>	platinum	sphere	pH		DIN plug <sup>①</sup>	C
N 6000 A	285105151	96 <sup>②</sup>	3	Silamid <sup>③</sup>	platinum	cylindrical	pH		DIN plug <sup>①</sup>	E
N 6000 BNC	285105632	96 <sup>②</sup>	3	Silamid <sup>③</sup>	platinum	cylindrical	pH		BNC plug <sup>①</sup>	E
N 6000 1M-DIN-ID	285130180	96 <sup>②</sup>	3	Silamid <sup>③</sup>	platinum	cylindrical	pH	√	DIN plug <sup>①</sup>	E
N 6000 1M-BNC-ID	285130190	96 <sup>②</sup>	3	Silamid <sup>③</sup>	platinum	cylindrical	pH	√	BNC plug <sup>①</sup>	E
N 6003	285105176	250 (70/180)	12/3	Silamid <sup>③</sup>	ceramic	cylindrical	pH		plug head	D
Pt 5900 A	285105192	96 <sup>②</sup>	5	Silamid <sup>③</sup>	platinum	rod	ORP		DIN plug <sup>①</sup>	G
Pt 5900 BNC	285105702	96 <sup>②</sup>	5	Silamid <sup>③</sup>	platinum	rod	ORP		BNC plug <sup>①</sup>	G
Pt 5901	285105065	160 <sup>②</sup>	5	Silamid <sup>③</sup>	platinum	rod	ORP		plug head	G

- All mentioned electrodes are suitable for application with a temperature range of -5 to +100 C°.
- pH electrodes are equipped with A-type membrane glass.
- pH electrodes with integrated temperature measurement are using a Pt1000.

<sup>①</sup> With 1m fixed cable.

<sup>②</sup> Length from upper end of standard taper; standard taper NS 7.5.

<sup>③</sup> Silamid reference systems provide a longer electrode life due to the double junction design where the inner tube is coated with silver which makes the electrode much more robust. Hence, the stability of the potential is much higher.

# Microelectrodes



**IL-Micro-pH-A**  
 IL-Micro-pH-A-DIN  
 IL-Micro-pH-A-BNC

**A**

**IL-Micro-pHT-A-DIN-N**  
 IL-Micro-pHT-A-BNC-N

**B**

**N 5800 A**  
 N 5800 BNC  
 N 5900 A

**C**

**N 6003**

**D**

**N 6000 1M DIN ID**  
 N 6000 1M BNC ID  
 N 6000 A  
 N6000 BNC

**E**

**A 157 1M BNC ID**  
 A 157  
 A 157 1M DIN ID

**F**

**Pt 5900 A**  
 Pt 5900 BNC  
 Pt 5901

**G**

**BlueLine 16 pH**

**H**

Microelect

# Decision table

Measuring samples		pH							pH + Temp			Redox/ ORP		
pH and ORP of e.g. agar-agar gel, enzyme and protein containing solutions, infusion solutions, bacteria culture, gastric juice, serum, urine, Tris buffer....		Micro			Micro Pro				Micro			Micro		
Measurement often takes place in small receptacles as e.g. vials, small vessels, NMR tubes etc. Due to this small sample volume it is important to take care of the electrode's diameter and the minimum immersion length in order to place the junction into the sample as well.		A 157	N 5800 DIN/BNC	N 5900	IL-Micro-pH-A	BlueLine 16pH	N 6000 A/BNC	N 6000 1M-DIN/BNC-ID	N 6003	IL-Micro-pHT-A-DIN/BNC-N	A 157	A 157 1M-DIN/BNC-ID	PT 5900A/BNC	PT 5901
electrode diameter [mm]		5	5	5	6	5	3	3	3	6	5	5	5	5
minimum immersion length [mm ± 1]		12	14	10	12	12	13	13	13	12	12	12	13	13
Receptacles	typical sample size. [gr.]	☐ - suitable √ - recommended												
NMR tubes	0.30 ml						√	√	√					
96 well plates	0.20 ml						√	√	√					
LiteTouch Tubes reaction vials	2.00 ml	√	√	√	√	√	☐	☐	☐	√	√	√	√	√
PCR plates	0.20 ml						√	√	√					
Sample tubes	0.50 ml	√	√	√	√	√	☐	☐	☐	√	√	√	√	√
Small test tubes	2.00 ml	√	√	√	√	√	☐	☐	☐	√	√	√	√	√

- ▶ Reliable and reproducible results
- ▶ Highest quality and long duration
- ▶ Accurate and highly precise
- ▶ Designed for small volume and life science applications

Advantages  
Microelectrodes

# For best results we recommend our ProLab 3000 meter

## Measuring: pH, mV and ISE in high precision

Two galvanically separated channels with a precision of 0.001pH or 0.1 mV allow simultaneous measurement on the highest level. The two pH/mV/ISE electrodes even work inside the same vessel thanks to automatic ID recognition without confusion. ID electrodes are identified and their calibration data are transmitted automatically. Also this meter offers user recognition with electronic identification and additional available password protection for a safely traceable user record.



## ID Technology

### Reliable and precise pH measurements through automatic electrode recognition

- Each ID sensor is equipped with a transponder, carrying the information of its type and serial number as well as the date and result of the last calibration.
- The exchange of this data between ID sensor and ID measuring instrument (Lab 870, Lab 970 and complete ProLab series) runs fully automatic.
- The ID sensors transfer their own individual data onto the ID instrument. An ID instrument is able to connect a multiple number of ID sensors or one ID sensor can be used on multiple instruments with recognition, without having to calibrate at every exchange. This increases the reliability and convenience enormously.
- With every new calibration the calibration data on the sensor is updated. For any following measurement the ID instrument will allocate the new data.
- When ID sensors and ID instruments are used, the calibration and measurement report will also state type and serial number of the electrode, besides stating date, time and measuring value.



# SI Analytics

a xylem brand

## SI Analytics GmbH

Hattenbergstr. 10  
55122 Mainz  
Germany

Phone: +49.6131.66.5111  
Fax: +49.6131.66.5001  
E-Mail: [si-analytics@xylem.com](mailto:si-analytics@xylem.com)  
Internet: [www.si-analytics.com](http://www.si-analytics.com)

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