

Laboratory pH Meter 766

The Laboratory pH Meter with uncompromising ease of use.

The 766 Laboratory pH Meter is designed for standard applications in everyday lab routines. It combines practical functionality and easy operation with comprehensive safety functions.

Gaincheck

Gaincheck performs a complete instrument check. At a keystroke, it not only checks electrical characteristics, but also display and keypad. At power-on, a short check automatically tests device functions. This ensures the device operability, as part of quality management to ISO 9000 and GLP.

Sensoface

checks the electrode and provides information on the electrode condition. Zero point, slope, response time, and glass impedance of the electrode are evaluated.

Trueline

delivers a calibrated analog recorder signal, of course electrically isolated. This provides you with a true pH signal, calibrated for the electrode and without disturbing quantizing levels, permitting undistorted recording of pH curves.

Calimatic

automatically recognizes the right buffer. It allows calibration at the stroke of a key, providing ease of use and – above all – safety.

You simply immerse the electrode in two buffers of the selected set, no matter which one you take first, and press the cal key. The meter automatically recognizes the buffer and calibrates itself.

It does not matter which buffer solution is taken first.

EMC

EMC design protects the meter from electromagnetic interferences, ensuring reliable measurement results even under unfavorable conditions.

Easy operation with five keys

Even with its comprehensive safety functions, the Model 766 remains easy to operate. Just five keys give access to all functions you require for easy and precise routine measurements.

Temperature compensation manual or automatic

Temperature is automatically compensated. A pH/Pt 1000 electrode detects the temperature and the Model 766 automatically calculates it into the measured value. Of course, you can also measure the temperature using a separate sensor or enter it manually.

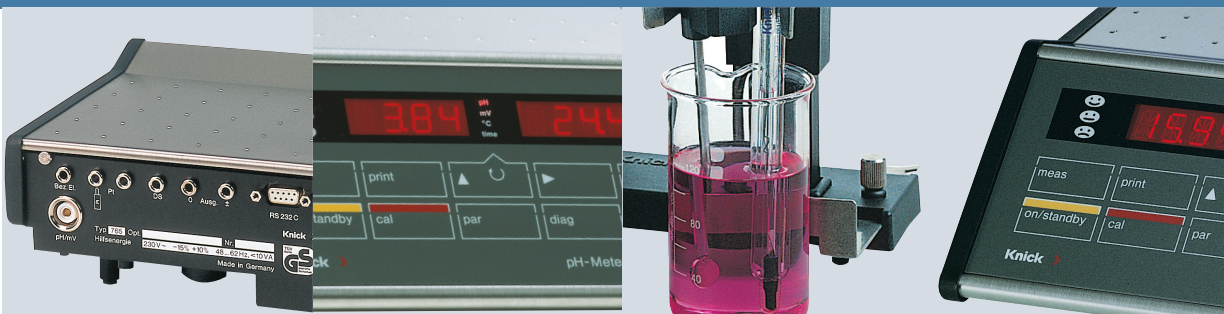
Easy-to-read LED display for pH and temperature

The large, bright 14-segment LED display for alphanumeric characters allows simultaneous read-out of pH/mV and temperature.

Safe and robust enclosure

The well-designed enclosure has proved successful in practical use. A waterproof membrane keyboard and drain grooves protect the meter from moisture. The robust, stainless steel covered enclosure resists even strong mechanical stress.

Laboratory pH Meter 766



The facts

- Gaincheck automatic device test
- Trueline calibrated analog recorder output
- Electrode monitoring with Sensoface icons
- Automatic calibration with patented Calimatic
- EMC to NAMUR
- Simultaneous pH and temperature display
- Easy operation
- Liquid-proof membrane keypad
- Robust enclosure
- IP 54 protection

3 Year
Warranty!



Keypad

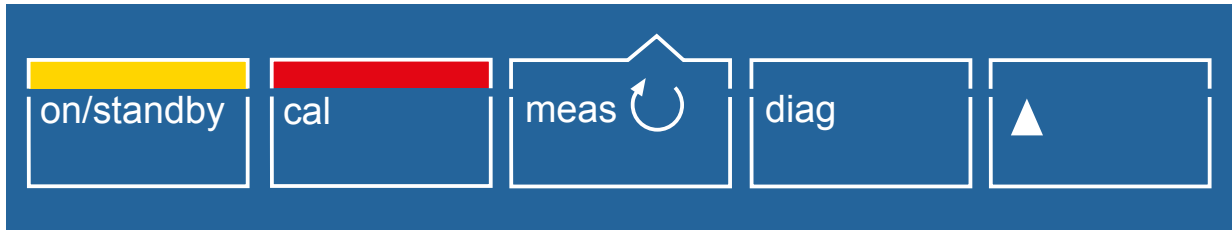
On/off
(standby)

Activate
calibration

Exit function and
return to measuring
mode

Activate
diagnostics

Step through or
edit value



Gaincheck device self-test

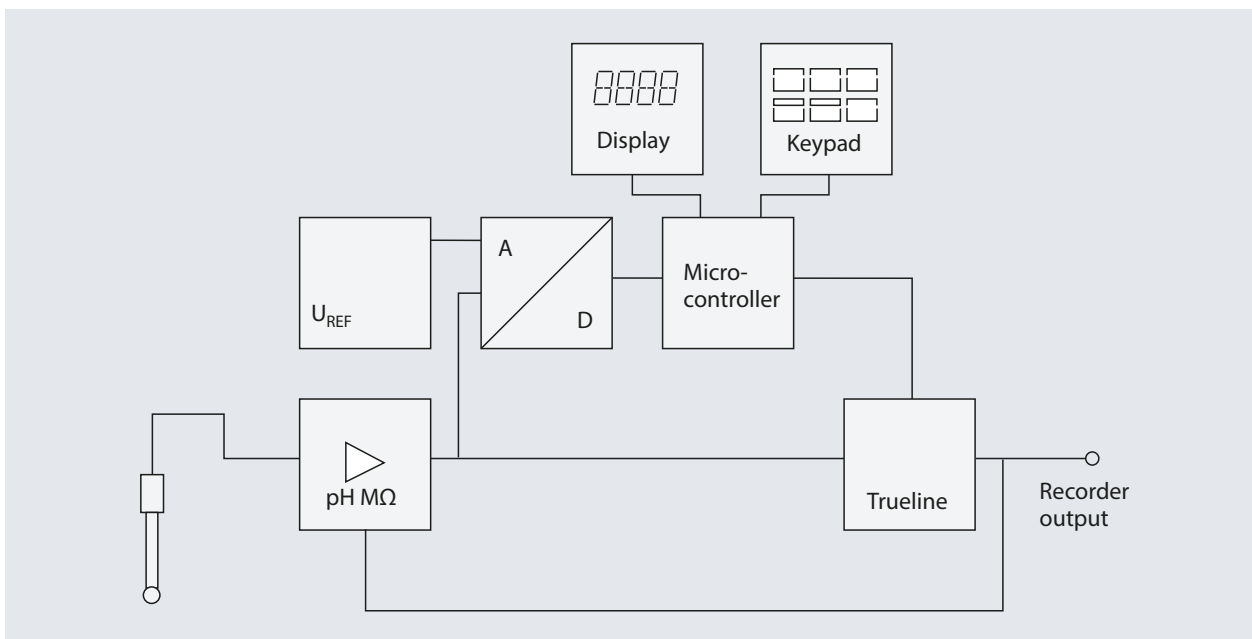
For the self test, the measuring circuit is connected to the recorder output.

The microcontroller sends defined voltage steps to the recorder output. These are measured with the measuring circuit and the A/D converter and compared with a highly accurate reference voltage.

This ensures reliable checking of the signal path. In addition, the Model 766 tests all Sensoface criteria, all memories, the display, and the keypad.

Gaincheck allows you to check your instrument's operability for quality management to ISO 9000 and GLP.

Gaincheck is only available from Knick.



Laboratory pH Meter 766

Specifications

Equipment	Meter with power cord, without electrode	
Ranges	pH	-2,00 ... +16,00
	mV	-1999 ... +1999
	°C	-50,0 ... +150,0
Display	Alphanumeric 2 x 4stellig 14-segment LED character height 13 mm Measurement symbols pH/mV/°C/man 3 Sensoface icons inform on the condition of electrode and measuring equipment (GLP) ³⁾	
Measuring cycle	Approx. 1,5/s	
Accuracy ¹⁾	pH	< 0,01
	mV	< 0,1 % ± 0,3 mV
	°C	< 0,3 K
Input	DIN 19262	
Input resistance	> 1 x 10 ¹² Ohm	
Input current (20 °C) ²⁾	< 1 x 10 ⁻¹² A	
Temperature coefficient	< 0,1 count / K	
Electrode standardization	pH calibration Calimatic	automatic calibration and buffer recognition
	permitted calibration ranges	Zero pH 6 ... 8 Slope 47 ... 61 mV/ pH (25 °C)
Electrode monitoring Sensoface	evaluates zero, slope, response time, and glass impedance of the electrode, electrode condition displayed as good / average / poor, can be disabled	
Device self-test Gaincheck	Displays all Sensoface criteria and electrode data, tests measurement electronics including memories, measured value processing, and recorder output, checks display and keypad during diagnostics, automatic short check at power-on	
Temperature compensation	Pt 100 / Pt 1000, automatic selection manual 0,0 ... +100,0 °C*)	
Dead-Stop-Strom	-10 µA	
Recorder output*) Trueline	pH-compensated, no quantizing levels	
	mV	1 mV/mV
	pH	100 mV/pH
	Automatic matching to measured value setting	
Calibration data storage	Automatic storage of calibration data and settings, self-contained	
Data retention	>10 years (EEPROM)	
Protection against electrical shock	Protective separation of all extra-low-voltage circuits against power supply to DIN VDE 0100 Part 410 as defined in DIN VDE 0106 Part 101 and according to EN 61010 Part 1	

continued - **Specifications**

EMC directive	89/336/EEC
Standards	EN 61326 VDE 0843 Part 20: 2002-3
Surrounding Conditions	Ambient temperature 0 ... +45 °C / +32 ... +113 °F Storage and transport temp -20 ... +70 °C / -4 ... +158 °F
Power supply	230 V -15 % +10 %, 48 ... 62 Hz, <10 VA optional 115 V AC (Opt. 363)
Sensor connection	The meter allows connection of any commercial electrodes with DIN plug or banana plug
Enclosure	Glass-reinforced polyamide 12, stainless steel cover, IP 54 protection, prepared for connecting ZU 6954 attachable stand
Dimensions (W x H x D)	244 x 95 x 255 mm / 9,61 x 3,74 x 10,04 inches
Weight	Approx. 2 kg / 4,41 lbs

*) User defined

1) ± 1 count

2) 45 °C factor 10

3) Good Laboratory Praxis

Buffer sets

Buffer set – 00 –	CaliMat buffer solutions
Buffer set – 01 –	Mettler-Toledo technical buffers
Buffer set – 02 –	Merck, Riedel
Buffer set – 03 –	techn. buffer solutions to DIN 19 267
Buffer set – 04 –	DIN 19 266 and NIST (NBS)
Buffer set – 05 –	Merck, Riedel
Buffer set – 06 –	Merck
Buffer set – 07 –	Ciba (94)
Buffer set – 10 –	Mettler-Toledo (USA)

Laboratory pH Meter 766

Specifications Accessories

Stand	Order No.: ZU 6954		
Material	Pillar	anodized aluminum	
	carriage and base	polyamide 12 glass reinforced	
	Beaker stop, vertical stop and electrode clasp	stainless steel	
Carriage stroke	190 mm		
Clamping possibilities	2 x 12 ±0,5 mm	1 x 4 ... 14 mm	1 x 6 ... 16 mm
Stop for sample beakers	from Ø 30 ... 150 mm		
Beaker height	Up to 130 mm		
Dimensions (W x H x D)	130 x 300 x 145 mm / 5,12 x 11,81 x 5,71 inches		
Weight	Approx. 410 g / 0,9 lbs		

Plug-in power pack for immersion stirrer	Order No.: ZU 6956		
Power supply	230 V AC -15 % +6 % <8 VA		
Cable length	2 m		
Weight	Approx. 380 g / 0,84 lbs		

Immersion stirrer	Order No.: ZU 6955		
Material	Enclosure	PVC	
	impeller and shaft	stainless steel	
Dimensions	Unit: 250 x Ø 25/12 mm		
	impeller: Ø 12 mm		
	immersion depth: ca. 90 mm		
Weight	Approx. 140 g / 0,31 lbs		

Combination pH electrodes for lab and field units

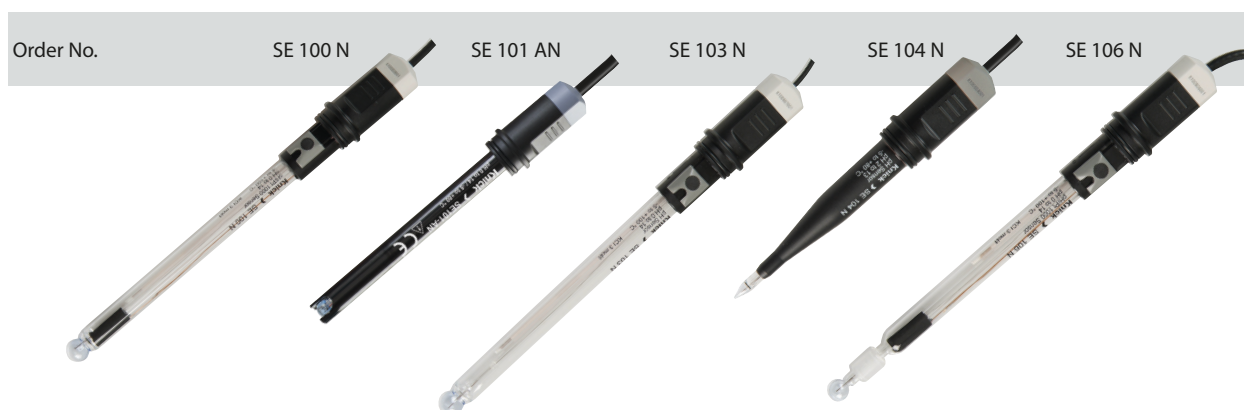
The SE 100 N and SE 103 N electrodes with a glass body are combination electrodes for standard applications in the lab. The Model SE 100 N has an integrated Pt 1000 temperature probe. The Model SE 103 N with its high-temperature dissipation system is suitable for measurements in media up to 100 °C.

For use in rougher environments, Knick offers the SE 101 N electrode with plastic body. It is also equipped with an integrated Pt 1000 temperature probe. In addition, Knick also offers the SE 104 N puncture electrode. This thin, gel-filled combination electrode is particularly robust and insensitive to pollution. Therefore, it is suited especially for measurements in semi-solid substances such as meat or cheese.

A special feature of the SE 106 N electrode is its ground diaphragm, which achieves a comparatively large, continuous electrolyte flow. The electrode is a good choice when it comes to prevent junction blocking by solids or proteins, minimize charge effects caused by surfactants or dispersions, for example, or measuring in low-ion solutions. The electrode can also be used in high-temperature and/or high-pH solutions.


Specifications Combination pH electrodes

Combination pH Electrodes	SE 100 N	SE 101 AN	SE 103 N	SE 104 N	SE 106 N
Temperature probe	Pt 1000	Pt 1000	–	–	Pt 1000
Body material	Glass	Plastic (Noryl/PPO)	Glass	Plastic (Noryl/PPO)	Glass
Body length	170 mm	120 mm	170 mm	65 / 25 mm	165 mm
Body diameter	12 mm	12 mm	12 mm	15 / 5 mm	12 mm
Junction	Ceramic	Fibre junction	Ceramic	Open junction	Ground Joint
Electrolyte	3 mol/l KCl, refillable	Gel	3 mol/l KCl, refillable	Polymer	3 mol/l KCl, refillable
pH measurement range	0 ... 14	0 ... 14	0 ... 14	2 ... 13	0 ... 14
Temperature range	–5 ... +100 °C / +23... +212 °F	–5 ... +80 °C / +23... +176 °F	–5 ... +100 °C / +23... +212 °F	–5 ... +80 °C / +23... +176 °F	0 ... +100 °C / +32... +212 °F
Recommended temperature probe	integrated	integrated	ZU 6959	ZU 0156	–
Remarks	–	–	High-temperature dissipation system	Puncture electrode	High-temperature dissipation system



Laboratory pH Meter 766

Product Line Laboratory pH meters and combination pH electrodes

Laboratory pH Meter 766		Order No.
	Unit with power cord, without electrode	766
Set A		
	Laboratory pH meter 766, pH/Pt 1000 combination electrode. SE 101 N	766 Set A
Set B		
	Laboratory pH meter 766, pH/Pt 1000 combination electrode. SE 100 N	766 Set B
Options		
pH/Pt-1000 combination electrode		Power supply, 115 V AC
	Glass body, Ceramic junction, length 170 mm	SE 100 N
pH/Pt-1000 combination electrode		Plastic body, Fibre junction, length 120 mm
		SE 101 AN
Combination pH electrode		Glass body, Ceramic junction, length 170 mm
		SE 103 N
Combination pH puncture electrode		Plastic body, Open joint, length 65 / 25 mm
		SE 104 N

continued - Product line Laboratory pH meters and combination pH electrodes

pH/Pt-1000 combination electrode



Glass body, ground diaphragm, length 165 mm

Order No.

SE 106 N

Product Line Accessories

Attachable stand



Besides the immersion stirrer, the attachable stand can hold three sensors of any kind. The adjustable stops prevent damage of sensor and beaker glass. Time-consuming adjustment during sample change has been eliminated. An integrated cable duct does away with the "spaghetti cables" on your benchtop. For immersion stirrer and three sensors. Fixed directly to the meter.

Order No.

ZU 6954

Immersion stirrer



The immersion stirrer reduces electrode response time for measurement and calibration. Precision measurements to DIN 19268 even require stirring. To prevent splattering of test liquid, the stirrer automatically stops as the carriage moves up. The stirrer is supplied via the ZU 6956 plug-in power pack.

ZU 6955

Plug-in power pack



For immersion stirrer ZU 6955

ZU 6956

Pt 1000 temperature probe











For fast response temperature measurements:

ZU 6959

Monel 2.4360, -10 ... +100 °C, accuracy class A to IEC 751

Laboratory pH Meter 766

pH technical buffers CaliMat

		Amount	Order No.	
	pH 2,00 (20 °C)	250 ml	CS-P0200/250	
	pH 4,00 (20 °C)	250 ml	CS-P0400/250	
		1000 ml	CS-P0400/1000	
	pH 7,00 (20 °C)	250 ml	CS-P0700/250	
		1000 ml	CS-P0700/1000	
	pH 9,00 (20 °C)	250 ml	CS-P0900/250	
		1000 ml	CS-P0900/1000	
	pH 12,00 (20 °C)	250 ml	CS-P1200/250	
	Set pH 4,00 (20 °C)	3 x 250 ml	CS-PSET4	
		Set pH 7,00 (20 °C)	3 x 250 ml	CS-PSET7
			Set pH 9,00 (20 °C)	3 x 250 ml
	Set pH 4,00 / 7,00 / 9,00 (20 °C)	3 x 250 ml		CS-PSET479
			KCl-solution	250 ml