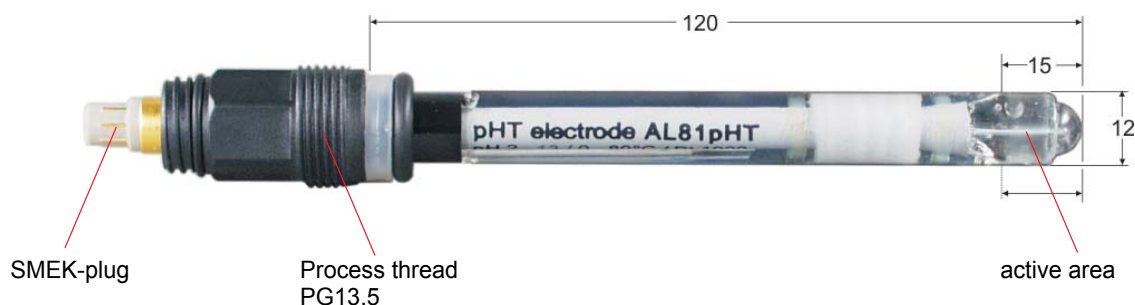


Standard pH- and ORP-combined electrodes

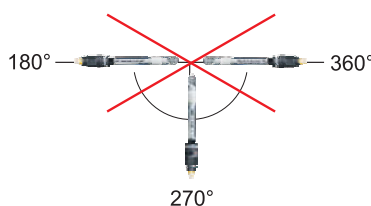
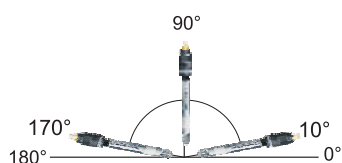


pH-combined electrodes

Features

Type	AL70pH-00	AL81pHT-00	SL81-120pHT-00	APS-X1Q2K1A-00	L9080
Functional range	2 ... 13 pH	2 ... 13 pH	0 ... 14 pH	1 ... 12 pH	0 ... 12 pH
Field of application	Water	Water/ Waste water	Food stuff (sterilizing possible)	Refrigeration engineering	Purified water boiler feed water
Operating temperature	-5 ... 80°C	0 ... 80°C	0 ... 135°C	-15 ... 80°C	-30 ... 80°C
Max. pressure	3 bar	10 bar	10 bar	6 bar	6 bar
Mounting length	120 mm	120 mm	120 mm	120 mm	120 mm
Process connection	PG13.5	PG13.5	PG13.5	PG13.5	PG13.5
Temperature sensor	-	Pt1000	Pt1000	-	-
Electr. connection (cables see page 3)	S7	SMEK	SMEK	S7	S7
Reference system	Silver/Silver chloride (Ag/AgCl) 0-point pH 7.00				
Reference filling solution	Gel	Polymer (Referid)	Gel	Gel	Flüssig
Diaphragma	ceramic	KPG	ceramic	PTFE	ceramic
Min. conductivity of the solution	50 µS/cm	50 µS/cm	50 µS/cm	50 µS/cm	<1 µS/cm
Mounting position ¹	10 ... 170°	10 ... 170°	10 ... 170°	10 ... 170°	10 ... 170°

¹ Mounting position



ORP-electrodes next page

ORP-combined electrodes

Features

Type	AL79Pt-00	Pt8281HD-00
Functional range	2 ... 13 pH	2 ... 13 pH
Field of application	Environmental engineering/ disinfection	Environmental engineering/ disinfection
Operating temperature	-5 ... 80 °C	-5 ... 100 °C
Max. pressure	3 bar	10 bar
Mounting length	120 mm	120 mm
Process connection	PG13.5	PG13.5
Temperature sensor		
Electr. connection (cables page 3)	S7	S7
Reference system	Silver/Silver chloride (Ag/AgCl) 0-point pH 7.00	
Reference filling solution	Polymer (Referid)	Polymer (Referid)
Diaphragm	ceramic	KPG
min. conductivity of the solution	50 µS/cm	50 µS/cm
Mounting position ¹ (see page 1)	10 ... 170°	10 ... 170°

Utilization notes for pH- and ORP-combined electrodes

- 1.) pH and redox combined electrodes are supplied with a protective cap, which is filled with a 3mol KCL solution. In this condition the electrodes can be stored max. 1 year. Therefore the protective cap should be removed only just before installation and use.
- 2.) The shank of the combined electrode consists of glass and is easily fragile. At installation it must be ensured absolutely that the tube does not push anywhere.
- 3.) Because the characteristics deviate from the ideal line, for the precise measurement it is necessary to calibrate the electrode after start-up and then in regular time intervals.
- 4.) A combined electrode must not drain at the active tip, otherwise it becomes useless. To recover the active tip of the electrode it can be dipped for about 24 hours into a 3mol KCL storage solution. Subsequently, a calibration is necessary, because zero point and slope may have been drifted.
- 5.) In dirty and containing protein media a cleaning of the electrodes is necessary occasionally. When using purpose we offer a special cleaning solution. After cleaning, the electrodes must be rinsed with water.

Note!

pH- and ORP-electrodes only have a limited life of operating. It depends on the field of application such as medium, pressure and temperature. It can differ between a number of weeks and several years. There are special cases, of environment conditions where operating life will be only some days. Characteristic and response time will change by aging. Up to a certain aging point an error can be compensated by using electronic circuit (e.g. Converter UNICON-pH).

combined pH- and ORP-electrodes are articles of consumption and no subject to a common guarantee. Retaking or exchanges are generally excluded.

Our offer includes free technical support for selection optimal combined pH- and ORP-electrodes. Beside listed standard-electrodes we can also offer special models on customers request.

Accessories for pH- and ORP-measurement

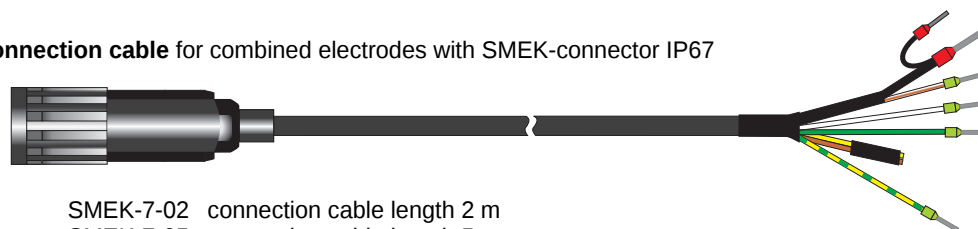
Connection cable for electrodes with S7-connector, IP67



Connection cable for electrodes with S7-connector IP67 at UNICON-pH head mounting.

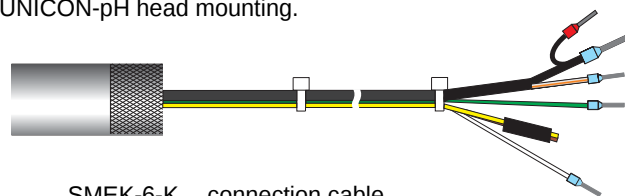


Connection cable for combined electrodes with SMEK-connector IP67



SMEK-7-02 connection cable length 2 m
SMEK-7-05 connection cable length 5 m
SMEK-7-06 connection cable length 6 m
SMEK-7-08 connection cable length 8 m
SMEK-7-10 connection cable length 10 m
(It is possible to cut not used lines)

Connection cable for combined electrodes with SMEK-connector at UNICON-pH head mounting.



WTW-technical buffer

container 1000 ml each, with dosing insert

TEP-4	buffer solution	pH 4.01
TEP-7	buffer solution	pH 7.00
TEP-10	buffer solution	pH 10.00



WTW ORP-buffer

1 bottle, content 250 ml

RH28 427 mV (pH7)

Accessories for pH- and ORP (redox)-measurement

Storage solution

DURAN-glass bottle 250 ml; 3mol KCL, sterilised
pH-AL-250



Cleaning solution

DURAN-glass bottle 250 ml; pepsin/hydrochloric acid
pH-RL-250

Calibration container

on-site calibration.
Material PMMA with filling mark (20 ml) and process thread PG13.5
(The pH-electrode must be screwed in the filled container)
pH-KR-20



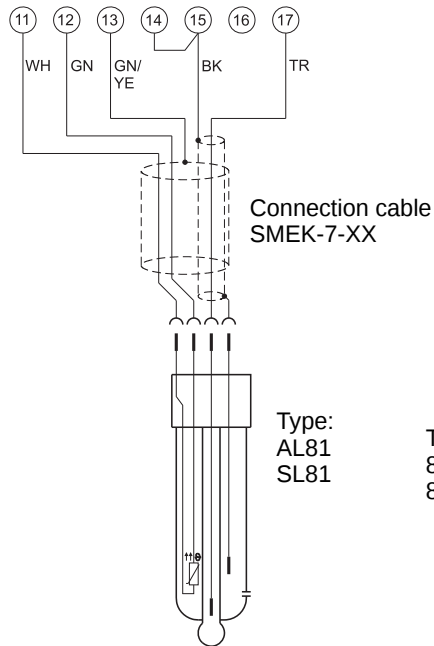
Cleaning tumbler

for cleaning the electrode with water
250 ml, Material PP
pH-SB-250

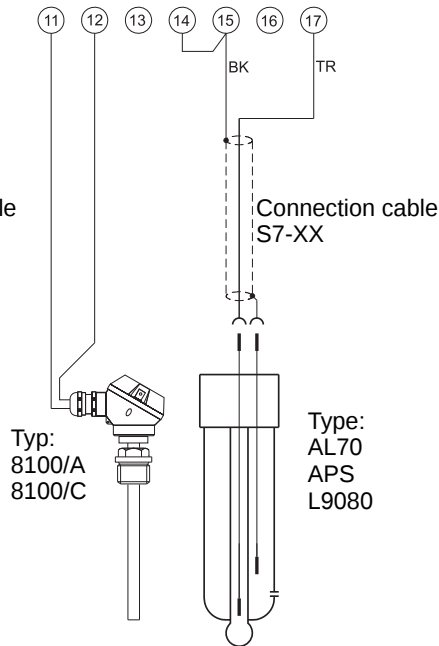


Connection diagram input UNICON-pH

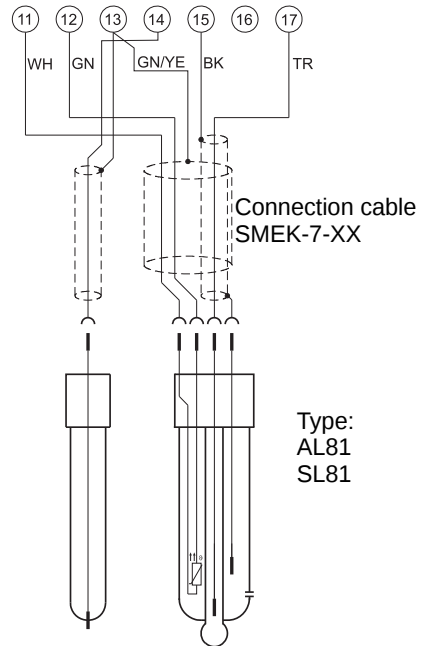
pH-combined electrode
with integr. temperature sensor



pH-combined electrode
with ext. temperature sensor



pH-combined electrode
with ORP electrode

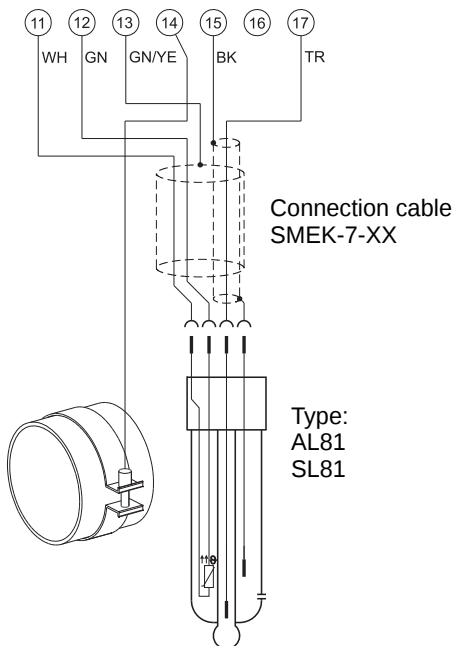


Colour code

green (GN)	green/yellow (GN/YE)	black (BK)	transparent (TR)	white (WH)
------------	----------------------	------------	------------------	------------

additional cable Yellow (YE) and Brown (BN) are not connected!

pH-combined electrode with integr.
temperature sensor and ext. liquid ground



ORP-combined electrode
with ext. temperature sensor

